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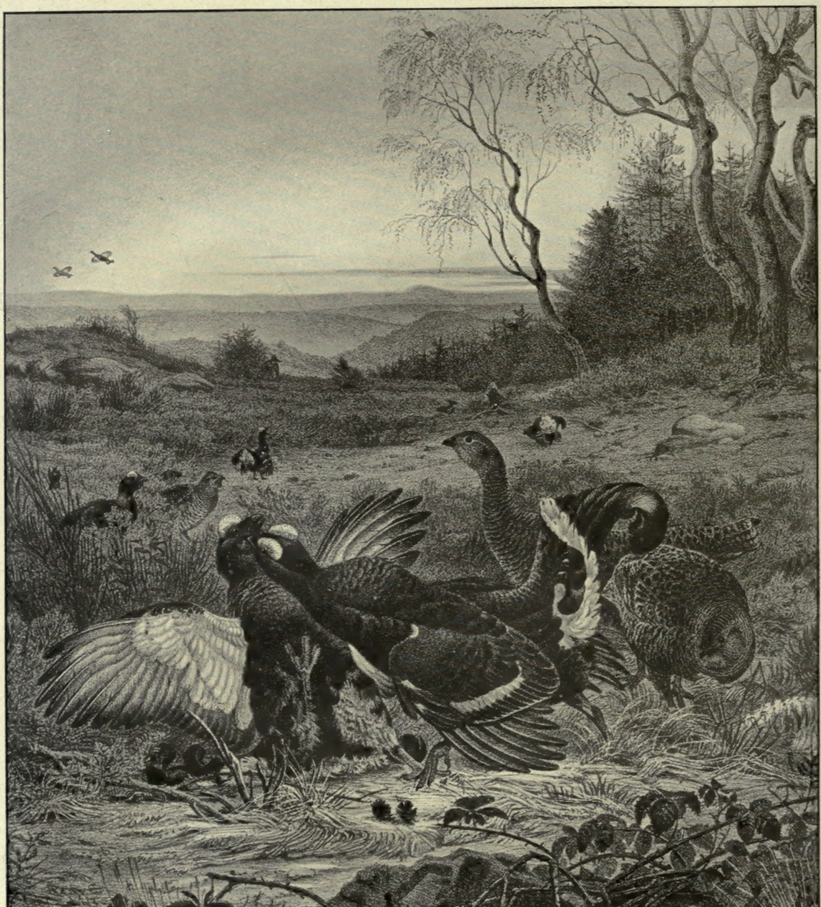

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A MANUAL OF
PALÆARCTIC BIRDS

BY

H. E. DRESSER, F.L.S., F.Z.S., &c.

AUTHOR OF "THE BIRDS OF EUROPE," ETC., ETC.

Part I

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PREFACE

Twenty years ago, when the *Birds of Europe* was nearing its end, I thought of issuing a similar work on the Birds of Northern Asia, in order to furnish a complete account of the Ornithology of the Palæarctic Region. It seemed, however, that I could not expect to obtain for my project the support of a sufficient number of subscribers to save me from serious pecuniary loss, and with much regret the project had to be abandoned. I have since been urged by many friends to bring out a Handbook of European Birds, of a size, and at a price, which would be convenient to travellers and field-naturalists—the latter being a class of persons with whom, for the sake of old associations, when I counted myself one of them, I have still the greatest sympathy. Bearing in mind, however, my former desire to treat of the Birds of Northern Asia, and knowing how non-existent is any physical barrier between the Eastern and Western portions of the Palæarctic area, I have thought it expedient not to limit the present *Manual* to European species, even with the addition of those of Barbary and the Atlantic Islands (Madeira, Canaries, and Azores).

There is admittedly little difficulty in laying down the southern frontier of this area in Africa, since the Great Desert forms a natural boundary, but the southern limits in Asia are less easily defined. I suppose these to run to the northward of the Arabian Desert, and including the tableland of Persia, the highlands of Baluchistan, the whole of Afghanistan, and the

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Himalayan Range above about 6,000 feet, stretching to the south of Tibet, and north of the valley of Yang-tse-kiang as far as the Pacific, and then round Corea and the main islands of Japan, with of course all the countries lying to the northward of a line so indicated, but it seems to be admitted that these limits cannot at present be more definitely drawn.

This work being primarily intended for the use of field-naturalists and travellers, I have thought it advisable to cut as short as possible all technical questions, such as synonymy and the like. The arrangement followed is very nearly the same as adopted in the *Birds of Europe*, with of course the additions rendered necessary by the larger ground that has to be covered. It will be seen, however, that the extreme subdivision of genera, species, and subspecies now so much in fashion has been avoided, and this, I think, will be found a practical convenience to the field-worker. The endless manufacture of subspecies in particular, often based on very trifling differences of tint, seems calculated rather to puzzle and discourage than to assist the beginner, for even the expert is apt to find himself lost in investigating slight distinctions which are occasionally not much more than those which separate individuals. No one can doubt that in most cases the wider the area over which a species ranges, the greater is the amount of variation to be found among its members, the variation being apparently due to climatic or other local causes. When fairly defined limits can be assigned to such variations, it is quite legitimate to accord them separate treatment, whether they be called subspecies or not; but when every intermediate stage between examples that are most unlike can be found, the attempt to differentiate them more than Nature herself has done seems entirely inexpedient. For this reason, besides being in principle a binomialist, I have declined the recognition of such so-called "subspecies," as those who have described them have so little confidence in as to need the aid of trinomials.

The descriptions of the various species have been mainly taken from specimens which were then in my own collection, now in the Museum of Owens College at Manchester, but some are from specimens in the British Museum or that of Tring, which last have been generously placed at my disposal by their possessor, the Hon. Walter Rothschild, M.P. In most cases I have examined as large a series of specimens as possible, but there are some few of which I have not been able to see a single example, and have then been compelled to borrow a published description.

It had been my intention to include a map of the Palæarctic area, but consideration showed that it was impossible to give one in an 8vo. volume which would be of any practical use to the reader. A second plate from a drawing by the late Mr. Joseph Wolf, has therefore been substituted which, I think, can scarcely fail to give pleasure to those who may possess the work.

I take this opportunity of returning my thanks to many friends both at home and abroad, who have kindly assisted me in preparing this work, and among them I would especially name Professor Newton, who has helped to look over the proofs, and in various other ways has greatly assisted me; Mr. Howard Saunders, on whose co-operation I could always reckon; and lastly to the Society for the Protection of Birds, who permitted me to publish the work at No. 3, Hanover Square.

H. E. Dresser.

28, Queensborough Terrace, W.
1st *June*, 1903.

ABBREVIATIONS OF THE WORKS CHIEFLY CITED

Bechst. Gemeinn. Naturg. Deutsch.—Bechstein (J. M.), Gemeinnützige Naturgeschichte Deutschlands nach Allen drey Reichen (1789–95)

Berez. and Bianchi Ptitz. Gan-su.—Berezowski (M.) and Bianchi (V.), Aves expeditionis Potanini per provinciam Gan-su et confinia 1884–87 (1891) (*in Russian*)

David and Oust. Ois. Chine.—David (A.) et Oustalet (E.), les Oiseaux de la Chine (1877)

Defilippi Viagg. Pers.—Filippo Defilippi, Note de un Viaggio in Persia nel 1862 (1865)

Dresser.—Dresser (H. E.), A History of the Birds of Europe, including all the species inhabiting the Western Palæarctic Region (1871–81), Supplement (1895–96)

Gould, B. of Eur.—Gould (J.), The Birds of Europe (1832–37)

id.—B. of Gt. Brit.—id. Birds of Great Britain (1862–73)

id.—B. of Asia, id. The Birds of Asia (1850–83)

id.—B. of Austral., id. The Birds of Australia (1840–48)

Hempr. and Ehr. Symb. Phys. Aves. –Hemprich (F. W.) et Ehrenberg (C. G.), Symbolæ Physicæ, seu Icones et Descriptiones corporum Naturalium novorum aut minus cognitorum quæ ex itineribus per Libyam, Ægyptum, Nubiam, Dongalam, Syriam, Arabiam, et Habessiniam, &c. (1828–45)

Heuglin, Orn. N. O. Afr.—Heuglin (Th. von), Ornithologie Nordost-Afrika's der Nilquellen-und Kusten-Gebiete des Rothen Meeres und des nordlichen Somal Landes (1869–74)

Hewitson.—Hewitson (W. C.), Coloured Illustrations of the eggs of British Birds, accompanied with descriptions of the eggs, nests, &c., 3rd edition (1856)

Lilford.—Lilford (Lord), Coloured figures of the Birds of the British Islands (1885–97)

Lorenz, Beitr. Orn. Nords. Kauk.—Lorenz (Th.), Beitrag zur Kenntniss der Ornithologische Fauna an der Nordseite des Kaukasus (1887)

Midd. Sib. Reis.—Middendorff (A. T. von), Reisen in den äussersten Norden und Osten Sibiriens, während der Jahre 1843 und 1844, Vögel (Band ii.) (1851–53)

Naum.—Naumann (J. F.), Naturgeschichte der Vögel Deutschlands nach eigenen Erfahrungen entworfen (1822–60)

Newton.—Yarrell's (W.), History of British Birds, 4th Edition. Vols. i. and ii. by Alfred Newton (1871–82)

Oates and Blanf., *F. Brit. Ind. Birds.*—Fauna of British India, including Ceylon and Burma Birds, vol. i. ii., by E. W. Oates (1889–90), vols. iii. iv., by W. T. Blanford (1895–98)

Pall. Zoogr. Ross As.—Pallas (P.S.), Zoographia Rosso-Asiatica, &c., &c. (1811–31)

Pleske, Ornith. Ross.—Pleske (Th.), Ornithographia Rossica (*in Russian and German*) (1889–91)

Pleske, Prjevalsky's Reisen Vögel.—Wissenschaftliche Resultate der von N. M. Prjevalsky nach Central-Asien unternommenen Reisen. Band ii. Vögel, von Th. Pleske (1889–90)

Prjev. Mongol. i Strana Tangut.—Prjevalsky (N. M.), Mongolia i. Strana Tangutov, &c., &c. (1875) (*in Russian*)

Radde, Sib. Reise (*Vögel*).—Radde (G. F), Reisen im Süden von Ost. Sibirien in den Jahren, 1855–59, &c. (1862–63)

Radde, Orn. Cauc.—Radde (G. F.), Ornis. Caucasica, &c. (1884)

Ridgway.—Ridgway (R.), A Manual of North American Birds, 2nd edition (1896)

Saunders.—Yarrell's (W.), History of British Birds, 4th edition, vols. iii. and iv. by Howard Saunders (1882–1885)

Saunders.—Saunders (Howard), An Illustrated Manual of British Birds, 2nd edition (1897–99)

Schrenck, Reis., &c., Amurl.—Schrenck (L. von), Reisen und Forschungen im Amurlande in den Jahren, 1854–56, Vögel (1860)

Seebohm B. Jap. Emp.—Seebohm (H.), The Birds of the Japanese Empire (1890)

Severtz. Turk. Jevot.—Severtzoff (N. A.), Vertikalnoe i Gorozontalnoe Raspredalenie Turkestanskie Jevotnie (1873) (*in Russian*)

Tacz. F. O. Sib. O.—Taczanowski (L.), Faune Ornithologique de la Sibérie Orientale (1891–93)

Temm. and Schlegel, Faun. Jap. Aves.—Fauna Japonica, &c., Aves by Temminck (C. J.) and Schlegel (H.), (1850)

Cat. B. Br. Mus.—Catalogue of the Birds in the British Museum, by Sharpe (R. B.) and other authors (1874–98)

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MANUAL OF PALÆARCTIC BIRDS

TURDUS, Linn., 1766.

1. MISTLETOE THRUSH.

TURDUS VISCIVORUS.

Turdus viscivorus, Linn. Syst. Nat. i. p. 291 (1766); Naumann, ii. p. 248, Taf. 66; Hewitson, i. p. 79, pl. xxiii. fig. 1; Gould, B. of E. ii. pl. 77; id. B. of Gt. Brit. ii. pl. 32; Newton, i. p. 258; Dresser, ii. p. 3, pl. 1; Oates, F. Brit. Ind. ii. p. 148; Tacz. F. O. Sib. O. p. 286; Seebohm, Cat. B. Br. Mus. v. p. 194; Saunders, p. 1; Lilford, iii. p. 80, pl. 40.

Draine, *Grive de gui*, French; *Tordeira*, Portuguese; *Charla Drena*, Spanish; *Tordela*, Italian; *Mistel-Drossel*, German; *Groote Lijster*, Dutch; *Mistel-Drossel*, Danish; *Duetrost*, Norwegian; *Dubbel-Trast*, Swedish; *Kulo-rastas*, *Rossa-rastas*, Finnish; *Drozd-Deryaba*, Russian.

♂ *ad.* (England). Above greyish brown, inclining to olivaceous; beneath buffy white, boldly spotted with blackish brown; eye-streak obsolete; axillaries and under wing-coverts pure white. Culmen 0·9, wing 6·0, tail 4·8, tarsus 1·3 inch. Sexes alike. The nestling is spotted and streaked above with golden buff.

Hab. N. and Central Europe and Asia as far east as Lake Baikal; in winter south to N. Africa, Persia, Turkestan, and N.W. Himalayas.

Frequents woods, orchards, and cultivated districts, and is, as a rule, somewhat shy. It feeds on insects, snails, worms, and, in winter, on berries of various kinds, and seems to be the species most partial to the mistletoe, its fondness for which is shown by its ancient Greek name, *ἰξοβόρος*, given by Aristotle. Its call-note is loud and harsh, and its song, which is clear and high-toned, may be heard as early as January or February. Its breeding-range in Europe extends from Greece and Southern Spain to about 68° N. lat. The nest, usually placed on the branch of a tree, often at a considerable height, is constructed of twigs, bents, moss, &c., the foundation plastered with mud, and is lined with fine grass, rootlets, and, occasionally, moss. The eggs, 4 or 5 in number, are reddish grey or brownish olive, marked with purplish brown or dark reddish brown, and measure about 1·32 by 0·9. They are frequently deposited in February, and both sexes share in the task of incubation. The Himalayan form, *T. hodgsoni*, Homeyer, is, as a rule, rather larger and paler in colour, but on comparing a series I find no specific difference between specimens from the Himalayas and Europe.

2. SONG THRUSH.

TURDUS MUSICUS.

Turdus musicus, Linn. Syst. Nat. i. p. 292 (1766) ; Naumann, ii. p. 262, Taf. 66 ; Hewitson, i. p. 81, pl. xxiii. fig. 2 ; Gould, B. of E. ii. pl. 78, fig. 2 ; id. B. of Gt. Brit. ii. pl. 32 ; Newton, i. p. 264 ; Dresser, ii. p. 19, pl. 2 ; Tacz. F. O. Sib. O. p. 316 ; Seebohm, Cat. B. Br. Mus. v. p. 191 ; Saunders, p. 3 ; Lilford, iii. p. 82, pl. 41.

Grive, French ; *Tordo*, Portug. ; *Zorzal*, Span. ; *Tordo bottacio*, Ital. ; *Sing-Drossel*, German ; *Zanglijster*, Dutch ; *Graadrossel*, Dan. ; *Naaltrost*, Norweg. ; *Talltrast*, Swed. ; *Haukirastas*, Finn. ; *Drozd-pavtschi*, Russ.

Ad. (England). Axillaries buff, eye-streak indistinct ; bill horn-brown, the lower mandible yellowish at the base ; legs pale brown. Culmen 0·8, wing 4·5, tail 3·3, tarsus 1·3 inch ; second primary shorter than the sixth. The female is usually smaller and paler : the nestling has the upper parts golden brown striped with bright buff, the under parts washed with golden buff ; axillaries and under wing-coverts golden buff.

Hab. Europe generally, north to about 60° N. lat., Asia as far east as Lake Baikal, in winter ranging as far south as Persia and Nubia. In Great Britain and Ireland most of those that have nested with us emigrate in autumn, and those that winter with us are increased in number by arrivals from the Continent. In January and February those which have migrated south return to their home and so remain till the following autumn.

The Song Thrush frequents groves, woods, and gardens, where its clear melodious song is often heard as early as February, or even in January, and late into the summer months. It feeds on worms, snails, and insects of various kinds, and their larvæ, and usually seeks its food on the ground; big snails it beats on a stone to break the shell before picking them to pieces and eating them. When the fruit is ripe it varies its diet with the smaller fruit and berries, and in winter feeds on various kinds of wild berries. Its nest is constructed of grass-bents, roots, moss, &c., and lined with a mixture of rotten wood and clay or dung, and the surface is carefully smoothed. It is usually placed on a bush or tree, but occasionally on a bank or amongst ivy or creepers. The eggs, 4 or 5 in number, are deposited late in March or in April, are blue, spotted with black or occasionally with red or brownish purple, but sometimes are blue, unspotted. In size they average about 1·0 by 0·8. Two broods are usually raised in the season.

3. MONGOLIAN SONG THRUSH.

TURDUS AURITUS.

Turdus auritus, Verr. N. Arch. Mus. Bull. vi. p. 34 (1870); Prjev. Mong. i. Strana Tang. ii. pl. xx., fig. 13 (egg); Pleske, Prjevalsky's Reisen, Vögel, p. 4, Taf. v. fig. 1 (eggs); Seebohm, Cat. B. Br. Mus. v. p. 193.

Ad. (Kansu). Resembles *T. musicus*, but is of a richer olive brown above, the spots on the wing-coverts are more clearly defined; below with larger and darker spots, the feathers on the cheeks with black terminal bands; axillaries and under wing-coverts darker buff; 3rd, 4th, and 5th quills nearly equal and longest, 2nd slightly longer than the 7th; beak brown, the base of the lower mandible white; legs greyish flesh; iris brown. Culmen 0·9, wing 4·7, tail 3·8, tarsus 1·37 inch. Sexes alike. The nestling has the upper parts spotted and striped with warm ochreous, the spots on the under parts smaller and washed with ochreous.

Hab. Northern China (E. Szechuen and Pekin) and Kansu in Mongolia.

It frequents mountain groves in Mongolia, and is not common. Prjevalsky found two nests at Kansu in the middle of May, one on a broken tree stump, and the other on a willow branch, not above seven feet from the ground. He does not describe the nest, but the eggs, he says, differ widely from those of *Turdus musicus*, and run into two varieties, one having the ground colour dull vinous, and the other light dull olivaceous, and the markings are violet-grey shell blotches, and larger and smaller rusty-red surface spots; they are rounder in shape than those of *T. musicus*, and in size average 1·05 by 0·8. He saw fledged young on the 30th June.

4. SWAINSON'S THRUSH.

TURDUS SWAINSONI.

Turdus swainsoni, Cabanis in Tschudi's Faun. Peru. ii. p. 187, 188, (1845–46); Naumann, xiii. p. 273, Taf. 355, fig. 4; Dresser, ix. p. 1. pl. 634, fig. 2; Seebohm, Cat. B. Br. Mus. v. p. 201.

Ad. (N. America). Above olivaceous tinged with green, the rump and tail uniform with the back; below white spotted with blackish brown, the sides of head, neck and the breast washed with buff; eye-streak indistinct; bill dark brown, yellowish at the base; legs brown; iris hazel. Culmen 0·52, wing 3·9, tail 2·9, tarsus 1·1 inch.

Hab. Eastern N. America, from the Yukon and Slave Lake, breeding as far south as at 44° N. lat., in winter ranging as far south as Peru; has once occurred in Greenland, and is a rare visitant to Europe, but has not occurred in Great Britain. Six occurrences have been recorded in Europe, viz. one near Genoa in 1843, a second at Namur, Belgium, a third on Heligoland in 1869, a fourth in Holstein, a fifth near Rovereto, Tyrol, in 1878, and a sixth at Sarzana in Liguria.

In general habits it is rather more arboreal than its congeners, and seeks its food more amongst the branches of trees than on the ground, feeding chiefly on insects of various kinds. Its song is sweet and plaintive, and is said to be more regular than that of *T. pallasi.* Its nest is placed on a tree in dense woods, usually about four to six feet above the ground, though in the high north it has been found as low as two feet. It is compact and neatly finished, constructed of lichen, moss, chiefly *Hypnum*, leaves, bents, strips of bark, &c., and the eggs 4 or 5 in number, which are usually deposited late in April or early in May, are bluish-green, occasionally light blue, spotted with yellowish- or reddish-brown, averaging in size about 0·88 by 0·66. In Western N. America a closely allied form occurs, which is separated by American authors under the name of *T. ustulatus Nutt.*, and which ranges north to Sitka, and in winter south through Western Mexico to Guatemala.

5. HERMIT THRUSH.

TURDUS PALLASI.

Turdus pallasi, Cab. in Wiegm. Arch. (1847), p. 205; Naumann, xiii. p. 273, Taf. 355, figs. 1, 2; Dresser, ix. p. 5, pl. 634, fig. 1; Seebohm, Cat. B. Br. Mus. v. p. 199; *Merula solitaria* Swains. Faun. Bor. Am. ii. p. 184, pl. 35.

Ad. (New Brunswick). Above brownish olivaceous, tail and upper tail-coverts reddish brown ; below white washed with pale buff, sides of throat and breast marked with sub-triangular dark brown spots ; bill darkish brown, pale yellowish at the base ; legs brownish ; iris hazel. Culmen 0·59 wing 3·64, tail 2·88, tarsus 1·19 inch.

Hab. North America, east of the Rocky Mountains, wintering as far south as Florida ; has strayed to Europe, one having been obtained at Klein Zerbst, in Anhalt in 1825 a second in Switzerland, a third in Heligoland in 1836, and a fourth, which is, however, open to doubt, near Vienna in 1846.

It frequents wooded, swampy localities, especially alder swamps, hence its name " Swamp Robin," by which it is generally known in New Brunswick, and is more terrestrial in its habits than *Turdus swainsoni.* Its song is exceeedingly sweet and melodious, and it was certainly the best songster I met with in New Brunswick. Its food consists chiefly of insects, worms, and small snails, which it picks up from the ground. Its nest is placed on the ground in damp, swampy, bush-covered localities, and is constructed of dead leaves, grass-bents, weeds, and bark-strips, lined with fine fibres, and the eggs 4 or 5 in number are deposited in May or early in June, and are uniform greenish-blue, unspotted, measuring about 0·88 by 0·7. American ornithologists recognise two subspecies of the present bird, viz., *Turdus nanus,* which inhabits Western North America, from Kodiak to Cape St. Lucas and Arizona, and *Turdus auduboni,* which inhabits the Rocky Mountains from Fort Bridger south into Mexico.

6. GRAY-CHEEKED THRUSH.

TURDUS ALICIÆ.

Turdus aliciæ, Baird. B. N. Am. p. 217, pl. 81, fig. 2 (1858) ; Taczs. F. O. Sib. O. p. 318 ; Palmén, Vega. Exp. Fogelf., p. 262 ; Seebohm, Cat. B. Br. Mus. v. p. 202.

Oyngoptschekadlin, Tschuktch.

Ad. (N. America). Differs from *T. swainsoni* in having the upper parts greyish olive, sides of the head ashy grey ; under parts white, the chest sometimes tinged with buff, and marked with triangular plumbeous brown spots ; axillaries dull greyish olivaceous ; a distinct whitish orbital ring ; legs brown. Culmen 0·55, wing 4·0, tail 3·2, tarsus 1·1 inch. The young of these three American Thrushes differ from the adult in having the upper parts marked with warm buff, and the adults are rather darker in the autumn than in the spring. Sexes similar.

Hab. N. America, from Labrador to the Behring Straits, south to the northern States in summer, ranging in winter as far south as Costa Rica. Not uncommon in N.E. Siberia.

Frequents pine-woods more than those composed of deciduous trees, and is said to be far more shy than *T. swainsoni.* Its food is much the same as that of its congeners, and it usually obtains it on the ground. Its song is said to differ from that of its congeners, most nearly resembling, however, that of *T. pallasi.* Its nest, which is placed on a tree or bush at from 2 to 7 feet above the ground is constructed of sedge, grass-bents, bark-strips, and stems of the more delicate *Equisetaceæ*, never of *Hypnum*, and the eggs, usually 4 in number are greenish blue, bluer than those of *T. swainsoni*, spotted with russet and yellowish brown, averaging in size about 0·92 by 0·64.

Mr. Ridgway separates an eastern form, inhabiting the N.E. United States, which he calls *T. bicknelli*, and should this separation be justified, which I am inclined to doubt, it will not be this form but true *T. aliciæ* which inhabits N.E. Siberia.

7. Redwing.

TURDUS ILIACUS.

Turdus iliacus, Linn. Syst. Nat. i. p. 292 (1766) ; Naumann ii. p. 276, Taf. 67 ; Hewitson, i. p. 87, pl. xxiv. figs. 1, 2 ; Newton, i. p. 268 ; Dresser, i. p. 35, pl. 3 ; Tacz. F. O. Sib. O. p. 314 ; Seebohm, Cat. B. Br. Mus. v. p. 189 ; Saunders, p. 5 ; Lilford, iii. p. 84, pl. 42.

Mauvis, French ; *Tordo pisco*, Portug. ; *Malvis*, Span. ; *Tordo sassello*, Ital. ; *Rothdrossel*, German ; *Ræddrossel*, Dan. ; *Rædving*, Norweg. ; *Rödvinge-Trast*, Swed. ; *Punirastas*, Finn. ; *Drozd-oriechowyi*, Russ. ; *Skógar Thræstr*, Icel.

Ad. (Sweden). Above brown, the wings rather darker, the coverts edged with greyish brown ; below white spotted and streaked with blackish brown ; a well defined whitish eye-streak, axillaries wing-coverts, and flanks orange chestnut ; bill dark brown, lower mandible paler at the base ; legs greyish flesh brown ; iris brown. Culmen 0·7, wing 4·6, tail 3·5, tarsus 1·0 inch. Sexes alike. The young are streaked above with ochreous, and have the flanks and under wing-coverts dull rufous. In the autumn the adult is rather darker, the eye-streak is tinged with rufous, and the flanks and the wing-coverts are less richly coloured.

Hab. Iceland, the northern portions of Norway, Sweden Finland, and N. Russia, breeding as far south as North

Germany. In Asia it is common to the Yenesei valley and occurs in decreasing numbers east to the Pacific Ocean. In winter it ranges south to Algeria, Madeira, the Canaries, Turkestan, Persia, and the Himalayas. In Britain it only occurs on migration and in winter.

It frequents the woodlands and is but seldom seen in open tree-less localities, and its food is similar to that of its congeners. Its song is clear and sweet, though somewhat melancholy and in quality inferior to that of *Turdus musicus.* The nest, which is placed on a very low tree or bush, or even on the ground, is constructed of pine-twigs, bents, and lichens, the foundation being plastered with earth, and the eggs, usually 6 in number, are deposited in May or early in June, resemble those of *T. merula* but are smaller, measuring about 1·0 by 0·70, but like thoseof many other species they vary, exhibiting what may be termed a " red " or a " green " type, not that either of these colours is in its purity ever reached, but in a series of eggs the tendency to one or the other extreme tinge is clearly shown.

8. DUSKY THRUSH.

TURDUS DUBIUS.

Turdus dubius, Bechst. Naturg. Deutschl. iv. p. 240 Taf. v. *b* (1795); Dresser, ii. p. 63, pl. 7; *T. fuscatus.* Pall. Zoogr. Ross. As. i. p. 451 (1871), Naumann, xiii. p. 307 taf. 359, figs. 1, 2, Gould. B. of E. pl. 79; Seebohm, Cat. B. Br. Mus. v. p. 262; Tacz. F. O. Sib. O., p. 289; Dresser, Ibis., 1901, p. 446, pl. ix. figs. 1–4 (eggs).

Drozd chernosoboy, Russ.

Ad. (Yenesei). Above greyish brown, streaked with dark brown; supercilium buff; rump washed with rufous; tail blackish brown; quills broadly margined with rufous; below dull white, spotted on the sides with black; breast and flanks boldly marked with black; under wing-coverts and axillaries rufous; bill dark brown, yellowish at the base; legs light brown; iris dark brown. Culmen 0·82, wing 5·15, tail 3·8, tarsus 1·35 inch. The young bird is much paler and duller, the under parts less boldly marked, and the margins of the wing-feathers are paler and greyish rufous in colour.

Hab. Asia as far north as the limit of tree growth, east to Kamchatka, the Commander Islands, and Japan, in winter ranging south to China, Mongolia, Assam, and N.W. India. To

Europe it is a rare straggler, having occurred twice in Norway, once in Germany, once in Belgium, and four times in Italy.

In general habits it is said to resemble the Fieldfare and Mistletoe Thrush. Its call-note is loud and harsh. It breeds on the Yenesei river, its nest being similar to that of the Fieldfare, and is placed on small isolated trees, usually not more than two feet from the ground. Its eggs vary from the ordinary Blackbird type to those of the Fieldfare, and are usually deposited in June.

9. FIELDFARE.

TURDUS PILARIS.

Turdus pilaris, Linn. i. p. 291 (1766); Naumann, ii. p. 296, Taf. 67; Hewitson, i. p. 84, pl. 23, fig. 3 (egg); Newton, i. p. 272; Dresser, ii. p. 41, pls. 4, 5; Tacz. F. O. Sib. O. p. 287; Seebohm, Cat. B. Br. Mus. v. p. 205; Oates, F. Brit. Ind. Birds, ii. p. 150; Saunders, p. 7; Lilford, iii. p. 86, pl. 43.

Grive litorne, French; *Tordo zonal*, Portug.; *Tordelagazzina*, Ital.; *Wachholder-Drossel*, German; *Kramsvogel*, Dutch; *Kramsfuggel*, Dan.; *Graa-trost*, Norweg.; *Björktrast*, *Snöskata*, Swed.; *Räkättirastas*, Finn.; *Rastis*, Lapp; *Drozd-riabinnik*, Russ.

Ad. (Finland). Head, hind neck, and rump bluish grey; the crown spotted with black; superciliary and malar stripes buffy white; centre of back, scapulars, and wing-coverts dark chestnut; quills and tail blackish brown; under parts white, throat and breast ochreous, the latter and flanks broadly marked with black; under wing-coverts and axillaries white; bill yellow, tipped with horn-brown; legs reddish-black; iris brown. Culmen 0·85, wing 5·8, tail 4·5, tarsus 1·3 inch. In winter the plumage is duller; the head shaded with brown, the feathers on the breast and flanks margined with fulvous white; beak horn-brown, yellowish at the base. The young bird has the upper parts much duller and striped with ochreous; the rump tinged with ochreous; under parts ochreous, becoming white on the lower breast and abdomen; the breast closely spotted with blackish.

Hab. Northern Europe and Asia as far east as the Yenesei valley occurring, though rarely, further east to Dauria, breeding in Scandinavia and North Russia and occasionally in North Germany and Central Russia; in winter passing south to N. Africa, Turkestan, Kashmir, and N.W. India. A winter visitant only to Great Britain.

It frequents wooded and cultivated localities preferring woods of birch and pine. Its usual call-note is a loud harsh cackle but it utters also a softer one resembling the syllables *qui-qui.* Its song which is usually uttered when the bird is on the wing is poor. It breeds in scattered colonies, the nest being placed on a tree or bush, or occasionally on a stump, and constructed of grass-bents, pine-twigs, and moss, the foundation plastered with clay, and the lining is usually of fine grass. The eggs from 4 to 6 in number are greenish-blue, marked with reddish brown, richer coloured and more sparingly marked than those of *T. merula,* and larger than those of *T. iliacus,* averaging about 1·5 by 0·85. They are subject to considerable variation in tone of ground-colour and markings.

10. REDTAILED FIELDFARE.

TURDUS NAUMANNI.

Turdus naumanni Temm. Man. d'Orn. éd. 21, ii. p. 170 (1820); Naumann, ii. p. 288, Taf. 68, 358; Dresser, ii. p. 59, pl. vi.; Seebohm, Cat. B. Br. Mus. v. p. 264; Tacz. F. O. Sib. O. p. 294; David and Oust. Ois. Chine, p. 153.

Ad. (N. Siberia). Above greyish brown, more or less marked with chestnut-red; rump, upper tail-coverts and tail foxy-red, the last paler; throat, breast, and flanks foxy-red; a line of black spots on each side of the throat; abdomen white, slightly marked with rufous; axillaries, under wing- and tail-coverts fox-red; bill blackish brown, yellowish at the base; legs light brown; iris dark brown. Culmen 0·8, wing 5·5, tail 4·1, tarsus 1·3 inch. The female is rather more olivaceous above, but the breast less rufous, the throat white washed with rufus, both spotted with blackish. The young bird has the upper parts, including the rump, olivaceous brown, the streak over the eye buffy white, the throat spotted with blackish brown, the flanks slightly marked and the breast washed with rusty-red. In the winter dress the feathers on the breast and flanks are margined with white.

Hab. Northern Asia, eastward to Japan; a rare straggler to Europe, where it has occurred in Hungary, Austria, Germany, Belgium, and Southern France, and doubtfully in Italy. It winters in China but has not been recorded from India.

In general habits it resembles *T. dubius,* but is less shy and affects pine-woods. Its song is sweet and clear and is said to resemble that of *T. musicus.* Nothing definite was known of its nidification until Mr. Popham found a nest containing eggs in the Yenesei valley and shot the female as she left her nest. These eggs so closely resemble some of those of *T. dubius*, that it is scarcely possible to identify them unless by obtaining the parent bird.

11. GOULD'S THRUSH.

TURDUS GOULDI.

Turdus gouldi, Verr. Nouv. Archiv. Mus. Hist. Nat. vi. Bull. p. 34. (1870); Prjev. in Rowley's Orn. Misc. ii. p. 198; David and Oust. Ois. Chine. p. 148, pl. xxxiv; Seebohm, Cat. B. Br. Mus. v. p. 260; Pleske, Prjevalsky's Reisen, Vögel, ii. p. 18.

♂ *ad.* (Mongolia). Head and neck slaty brown, crown darker, back, scapulars, and rump rich chestnut; wings and tail blackish brown; under part chestnut, the centre of abdomen dirty white; under wing-coverts chestnut, under tail-coverts varied black, white, and chestnut; bill yellow; legs pale brown; iris brown. Culmen 1·06, wing 5·6, tail 4·7, tarsus 1·4 inch. The female is paler and duller, and has the throat finely streaked with dull white. The male nestling has the head and neck blackish with brown margins, sides of neck and cheeks tinged with dull yellowish white; upper parts rusty-red, nape and tail-coverts brownish, all with white or reddish white shaft stripes and black tips; throat yellowish white; under parts irregularly banded with black and yellowish ochreous; bill brown, lighter towards the tip; legs pale brownish. The female nestling is paler, the crown, nape, and hind neck are earth-brown, the throat is white, striped with black on the sides; under parts ochreous, the breast and flanks washed with rusty-red, and breast and abdomen barred with blackish brown. The young bird has the bill brown, lighter towards the tip, legs light brown.

Hab. Kansu, Western Szechuen, and Moupin, where it is common.

In summer it inhabits the forests high up in the mountains, descending to the valleys in winter when it is often seen near human habitations. It is said to breed in the thickets which fringe the mountain streams but its nest and eggs are unknown. Its song is said to resemble that of *Turdus merula* but is harsher and less silvery in tone. When in company with its young it utters a call like that of *Lanius tephronotus*.

12. KESSLER'S THRUSH.

TURDUS KESSLERI.

Turdus kessleri, Prjev. Mong. i Strana Tangut. p. 62, pl. x. (1876); id. in Rowley's Orn. Misc. ii. p. 198, pl. liv; (Seebohm), Cat. B. Br. Mus. v. p. 261; Pleske, Prjevalsky's Reisen, Vögel, ii. p. 21, Taf. v. fig. 2, (eggs).

♂ *ad.* (Kansu). Head, neck, wings, and tail blackish; back and lower breast buff; scapulars, rump, flanks, and abdomen chestnut red; under wing-coverts buffy white with brown tips; bill yellow; legs brown. Culmen 1·0, wing 6·0, tail 4·6, tarsus 1·4 inch. In the female the head, neck, wings, and tail are sooty grey, the latter tinged with brown; upper parts brownish grey, rump washed with rusty ochreous; abdomen and flanks brighter rusty ochreous; bill horn-coloured at the base, yellowish at the tip. The nestling male has the crown, nape, hind-neck, and ear-coverts blackish brown, the hind-neck slightly spotted with buffy white; back and scapulars ashy grey at base, then blackish with a sub-terminal buffy white band; rump paler; upper tail-coverts blackish grey with whitish shaft-stripes and tips; under parts dull brownish yellow, irregularly banded; breast and moustache distinctly spotted; sides of neck spotted with blackish; flanks marked with chestnut; upper wing-coverts black, the lesser broadly, the median narrowly margined with reddish yellow, the former having also reddish yellow stripes; wings and tail blackish. The female nestling is much paler and the bars are finer and closer.

Hab. Kansu, the Upper Chuanche, and southern Koko-nor mountains.

It inhabits woods both deciduous and conifer in the mountains, bushes in the alpine districts, and juniper thickets in the lower alpine region, occurring up to an altitude of 12,000 feet. In spring and autumn it is seldom seen in pairs but in flocks of three to ten individuals. Fledged young were seen in July and family parties in August. In habits it resembling *Turdus gouldi*, and is an equally good songster; its song resembles that of the Song Thrush. Its call note resembles the syllables *tschok, tschok, tschok.* Two nests taken by Prjevalsky in the Southern Koko-nor Mountains on the 26th of May, contained 3 and 4 fresh eggs, and were placed in rocks under a protruding stone, one about seven and the other about fourteen feet above the dry bed of a stream, and placed where they were easily seen. One was built entirely of grass-bents and the other of grass-bents lined with hair, and feathers of *Perdix sifanica.* The eggs resembled those of the Fieldfare but several were so closely spotted that the ground colour was scarcely visible. In size they varied from 33 by 23 to 31·6 by 22·25 millimetres (1·30 by 0·91 to 1·23 by 0·88 inch). Both male and female took their share in incubating.

13. SWINHOE'S THRUSH.

TURDUS HORTULORUM.

Turdus hortulorum, Sclater, Ibis, 1863, p. 196; (Seebohm), Cat. B. Br. Mus. v. p. 267; *Turdus cardis*, (nec. Temm.), Swinhoe, Ibis, 1861, p. 37; *T. pelios* (nec. Bp.), Cab. J. f. O. 1870, p. 238; Tacz. F. O. Sib. O. p. 311; *T. campbelli*, Swinh. Ann. Nat. Hist. 1873, p. 374; *T. chrysopleurus*, id. Ibis, 1874, p. 444, pl. xiv.

♂ *ad.* (E. Siberia). Upper parts pale slate-grey, crown tinged with greyish, lores brownish, throat and breast whitish grey, the former streaked with darker grey; lower breast, flanks, axillaries, and under wing-coverts rich deep orange red; beak and legs yellow, iris brown. Culmen 0·85, wing 4·6, tail 3·2, tarsus 1·3 inch. The female differs in having the upper parts almost uniform olive brown, the middle of the throat nearly white and the cheeks and breast spotted with dark brown. The young bird has the upper parts greyish brown, the crown striated, the sides of the head pale grey, throat white, moustachal stripe brown; molar stripe white; lower throat buff, spotted; centre of abdomen white, the flanks pale rufous.

Hab. Eastern Siberia, the Ussuri country, and the coasts of the sea of Japan, wintering in Southern China.

It arrives in the Ussuri country early in May, inhabits the forests, and is extremely shy. It is an excellent songster surpassing it is said all other Siberian Thrushes. The nest, which is placed in a tree, is constructed of grass-bents, plant stems, and rootlets and lined with similar but finer materials, The egg is pale green spotted and marked with rusty-red and measures 25 by 19 millimetres (0·99 by 0·75 inch).

14. JAPANESE BROWN THRUSH.

TURDUS CHRYSOLAUS.

Turdus chrysolaus, Temm, Pl. Col. pl. 537 (1831); Temm and Schleg. Faun. Jap. Aves, p. 64, pl. xxviii; Schrenck Reis. &c., Amurl. i. p. 352; (Seebohm), Cat. B. Br. Mus. v. p. 275; Tacz. F. O. Sib. O. p. 313.

Akahara, Japanese.

♂ *ad.* (Japan). Upper parts pale russet-brown, the head tinged with grey; lores, darker; chin and throat sooty-brown; breast and flanks rich fox-red; abdomen and under tail-coverts white; axillaries and under wing-coverts pale slate-grey tinged with dull white; beak brown, paler at base of lower mandible ; legs pale brown. Culmen 0·8, wing 4·8, tail 3·3, tarsus 1·2 inch. Female paler and duller, the throat slightly marked with dirty white. The young have the upper parts as in the adult but spotted with ochreous, the feathers tipped with black, these markings fainter on the rump ; throat and flanks orange, becoming pale straw colour on the lower throat ; flanks barred and throat spotted with black.

Hab. The Ussuri country in Eastern Siberia, Saghalien, and Japan, wintering in Southern China, Hainan, Formosa, and ranging as far south as the Philippines.

It breeds in Japan and on the island of Saghalien, its nest being placed usually in pine-trees from four to thirty feet above the ground, and the eggs, usually 4 in number, which are deposited from the latter part of May to the end of July, are greenish blue rather richly spotted with reddish brown and measure about 1·06 by 0·78.

15. Dusky Thrush.

TURDUS OBSCURUS.

Turdus obscurus, Gmel. Syst. Nat. i. p. 876 (1788) ; Tacz. F. O. Sib., O. p. 306 ; (Oates) F. Brit. Ind. Birds, ii. p. 134 ; Dresser, ii. p. 71, pl. 8 ; (Seebohm) Cat. B. Br. Mus. v. p. 273 ; Dresser, Ibis, 1901, p. 445, pl. ix. figs. 1–4 (eggs) ; *T. pallens*, Pall. Zoogr. Ross. As. i. p. 457, (1811) ; *T. pallidus* (nec. Gmel.) Temm. Man. d'Orn., iii. p. 97.

♂ *ad.* (Yenesei). Head and neck slaty brown ; rest of upper parts olivaceous brown ; wings and tail brown, the external rectrices tipped with white ; a distinct superciliary stripe ; chin and a patch below the eye white ; breast and flanks orange buff ; rest of under parts white ; axillaries and under wing-coverts grey ; bill brown ; the lower mandible pale yellowish ; iris brown. Culmen 0·8, wing 4·92, tail 3·7, tarsus 1·25 inch. The female is duller, has the head and neck brown, the eye-streak buffy white and the chin, throat, and sides of the neck dull white. The young has the head and upper parts olivaceous, spotted with ochreous, the feathers with dark tips ; under parts white, throat and breast spotted with dark brown ; flanks dull orange ; superciliary streak indistinct.

Hab. Siberia from the Yenesei valley east to Lake Baikal and the Amoor, north to Kamchatka ; Japan, China, and Mongolia on passage, wintering in Assam, Malacca, and the islands of the Malay Archipelago ; of rare occurrence in Nepal, and Turkestan, and a rare straggler to Europe where it has occurred in Austria, Italy, Southern France, Holland, Belgium, and Germany.

This species frequents woodlands, usually pine, larch, and spruce groves, and differs little from its allies in its general habits. Its song is clear and rich, but it seldom gets beyond two or three notes. Its nest is placed on a tree at an altitude of from 15 to 20 feet; resembles that of a Fieldfare, is strongly built and lined with fine grass and dry larch needles. The eggs 4 to 5, seldom 6, are deposited in June, and resemble small eggs of the Blackbird, but are sometimes more richly spotted and blotched with rusty-red, and in size measure about 1·06 by 0·75.

16. RED-THROATED THRUSH.

TURDUS RUFICOLLIS.

Turdus ruficollis, Pall. Reis. Russ. Reichs. iii. p. 694 (1776); Naumann, xiii. p. 316, Taf. 360; Gould, B. of Asia, iii. pl. 66; Dresser, ii. p. 67, pl. 8; Tacz. F. O. Sib. O. p. 300; David and Oust. Ois. Chine, p. 156; (Seebohm), Cat. B. Br. Mus. v. p. 269; (Oates) F. Brit. Ind. Birds, ii, p. 130.

♂ *ad.* (E. Siberia). Upper parts greyish olive brown, superciliary stripe, chin, and throat rich chestnut red; under parts white; outer tail feathers fox red; flanks washed with grey; under wing-coverts and axillaries orange red; beak horn-brown, paler at the base; legs light brown; iris brown. Culmen 0·8, wing 5·3, tail 4·1, tarsus 1·35 inch. The female differs in having the throat rufous buff, marked with grey and rufous, the superciliary stripe buffy white, and the lower throat marked with brown. The young bird has the upper parts marked with buffy white, and the throat and upper breast buff, spotted with brown, the abdomen spotted with brown, and the tail narrowly tipped with dull white.

Hab. Eastern Siberia and central Asia, wintering in Turkestan, Afghanistan, the Himalayas, Mongolia, and China; has strayed to Europe, having been obtained in Heligoland and Germany.

Like its allies this Thrush frequents wooded localities and is said to be shy and unobtrusive in its habits. It probably breeds in Eastern Siberia, but its nest and eggs are as yet unknown.

17. BLACK-THROATED THRUSH.

TURDUS ATRIGULARIS.

Turdus atrigularis, Temm. Man. d'Orn. i. p. 169 (1820); Gould, B. of E. ii. pl. 75; id. B. of Gt. Brit. ii. pl. 36; Dresser, ii. p. 83, pl. ii.; (Seebohm) Cat. B. Br. Mus. v. 267; Tacz. F. O. Sib. O. p. 305; (Oates) F. Brit. Ind. Birds, ii. p. 131; Newton, i. p. 276; Saunders, p. 9; Lilford, iii. p. 88, pl. 44; Dresser, Ibis, 1901, p. 446, pl. ix. figs. 9–12 (eggs); *T. bechsteini*, Naumann, ii. p. 310, Taf. 69, figs. 1, 2, 361, figs. 1, 2.

♂ *ad.* (Turkestan). Upper parts greyish brown, the wings and tail dull brown; chin, throat, and upper breast black; under parts white, the flanks streaked with blackish, the under wing-coverts and axillaries tinged with reddish orange; bill yellow at the base, blackish at the tip; legs light yellowish brown; iris dark brown. Culmen 0·85, wing 5·25, tail 4·0, tarsus 1·3 inch. In the female the throat and breast are dull white, striped and marked with black. The young bird resembles the female, but the throat and breast are rather more boldly marked with blackish.

Hab. Asia north to the Ob and northern Yenesei, south to the Altai and Turkestan, east to Lake Baikal; in winter migrating south to Assam, northern India, Baluchistan, and Afghanistan; has occurred in Europe as a rare straggler in the Caucasus, Hungary, Austria, Germany, Denmark, Belgium, France, and once in Great Britain.

In its general habits this Thrush resembles *T. ruficollis*, and like that bird frequents wooded districts, but usually near water. It feeds on insects, and berries, worms, etc. It has been found breeding in the Altai range, and at Imbatskaya on the Yenesei river, and places its nest, which is constructed of dry grass with a lining of mud, and an inner lining of broad dry grass, on small fir-trees at an altitude of 3 to 6 feet, and in June deposits 4 to 6 eggs, which vary considerably, some resembling the ordinary type of the Blackbird, whereas others more resemble those of the Mistle Thrush, but have the ground colour of a deeper blue. In length they vary from 1·08 to 1·15, and in width from 0·77 to 0·84.

18. PALE THRUSH.

TURDUS PALLIDUS.

Turdus pallidus, Gmel. Syst. Nat. i. p. 32 (1788); Gould B. of E. ii. pl. 80; David and Oust. Ois. Chine, p. 151; Tacz. F. O. Sib. O. p. 309; (Seebohm) Cat. B. Br. Mus. p. 274; *T. daulias*, Temm. Pl. Col. No. 515 (1831); id. and Schleg. Faun. Jap. Aves. p. 62, pl. 26.

Shiropara, Jap.

♂ *ad.* (Japan). Upper parts warm russet brown, crown olivaceous; outer tail feathers with a large white terminal patch; no superciliary stripe; lores very dark; sides of head, throat, breast, and flanks slaty grey, the last tinged with brown; middle of throat marked with white; middle of abdomen and under tail-coverts white; axillaries greyish white; beak brown; the lower mandible yellowish white; legs pale brown; iris brown. Culmen 1·0, wing 4·9, tail 3·6, tarsus 1·2 inch. In the female the whole middle of the throat is white, and the sides of head and throat paler and brownish-tinged. The young bird is duller in colour, and the wing-coverts are white spotted.

Hab. Eastern Siberia and Japan; Mongolia, Manchuria, and Corea on passage, and winters in China; has occurred as far west as Assam.

In habits this Thrush resembles its allies and frequents wooded localities. It is, however, said to be very shy and wary. Its song which is generally uttered from some tree-top is said to be sweet in tone. It has been found breeding near the mouth of the Ussuri river in E Siberia; its nest which is placed on the branches of a tree is constructed of dry roots of *Vaccinium*, dry herbs, grass, moss, and pine-needles, and lined with fine grass-bents. The eggs 4 to 5 in number are usually deposited in June, and are pale bluish green rather finely spotted with reddish brown and vary from 29.2 by 19. 5 to 32 by 20 mm. (1.15 by 0·77 to 1.26 by 0·79 inch.)

19. WHITE'S THRUSH.

TURDUS VARIUS.

Turdus varius, Pall. Zoogr. Ross. As. i. p. 449 (1811); (nec. Horsfield 1811); Dresser, ii. p. 77, pl. 10; Newton i. p. 251; (David and Oust.) Ois. Chine p. 158; (Seebohm) Cat. B. Br. Mus. v. p. 151; Tacz. F. O. Sib. O. p. 280; Saunders, p. 11; Lilford, iii. p. 78, pl. 39; *T. whitei*, Eyton Rar. Brit. B. p. 92 (1836); Gould, B. of E. ii. p. 81; Naumann, xiii. p. 354; Newton P. Z. S. 1897, pl. li. fig. 5 (egg). *Oreocincla aurea* (Hol.), Gould, B. of Gt. Brit. ii. pl. 39.

Mame-jiro, Jap.

♂ *ad.* (Japan). Upper parts ochreous brown, under parts pale ochreous white, both above and below, marked with black, transverse bands; axillaries white on the basal, and black on the terminal half; tail composed of fourteen feathers; upper mandible dark brown, the lower one pale yellowish tipped with brown; legs dull yellowish brown; iris dark brown. Culmen 1·0, wing 6·5, tail 4·75, tarsus 1·35 inch. Female similar, but rather paler.

Hab. Eastern Siberia, Japan, and northern China, in winter migrating to southern China; has strayed as far west as Europe where it has been obtained in Austria, the Tyrol, Italy, southern France, Germany, Belgium, Heligoland, (where it has been obtained at least thirteen times), Sweden (once), Norway (once), Great Britain and Ireland.

White's Thrush is said to obtain its food on the ground, and feeds exclusively on insects when such are obtainable. Its note is loud and sibilous, and, according to Godlewski, it utters, when perched on a branch, at long intervals, a melancholy whistle, very difficult to describe. Swinhoe describes it as being shy and solitary in its habits, and its flight as low and undulating. It breeds in Eastern Siberia, northern China, and Japan, but fully authenticated eggs have as yet not been obtained, though eggs said to be those of this species, all differing from each other, have been sent from three sources. So far as I can judge, that figured by Prof. Newton (*ut suprà*) received through Canon Tristram from Prof. Ijima of Tokio, is most probably authentic.

20. BLACKBIRD.

TURDUS MERULA.

Turdus merula, Linn. Syst. Nat. i. p. 295 (1766); Naumann, ii. p. 326, Taf. 71; Hewitson, i. p. 91, pl. xxv. figs. 1, 2; Newton, i. p. 280; Dresser, ii. p. 91, pl. 13; Seebohm, Cat. B. Br. Mus. v. p. 235; Saunders, p. 13; Lilford, iii. p. 92, pl. 46. *Merula maxima*, Seebohm, tom. cit. p. 405 (1881).

Merle noir, French; *Merol-preto*, Portug.; *Mirlo*, Span.; *Merlo comune*, Ital.; *Schwarz-Drossel*, German; *Zwarte Lijster*, Dutch; *Sort-Drossel*, Dan.; *Solsort*, Norweg.; *Koltrast*, Swed.; *Mustorastas*, Finn.; *Tscherny-Drozd*, Russ.

♂ *ad.* (England). Entire plumage glossy black; bill orange; legs and feet brown, the soles yellow; iris brown; eyelids yellow. Culmen 1·05, wing 4·8, tail 4·4, tarsus 1·35 inch. The female has the upper parts dark olivaceous brown, the throat and sides of neck greyish white, spotted and streaked with dark brown; upper breast reddish brown, mottled with dark brown; rest of under parts greyish, the flanks washed with brown; the bill brown. The young bird has the upper parts brown, streaked with fulvous, the lower back and rump washed with rufous, the underparts pale or orange rufous barred and spotted with brown.

Hab. Europe generally, mostly resident, of accidental occurrence as far north as Iceland and Jan Mayen Island; the Azores, Canaries, and Madeira; in Asia as far east as Persia, Afghanistan, Turkestan, and Kashmir; North Africa.

Frequents woods, groves and gardens, and feeds on slugs, snails, worms, insects, berries, and fruit; its flight except in the open is fitful and wavering, and when it flies off it utters a loud chuckling cry. Its song, which is clear, loud, and melodious, may be heard from the middle of February to the beginning of August, and occasionally even in winter, and at all hours of the day. It breeds almost throughout its range from late in March to June according to latitude, the nest, which is constructed of twigs, rootlets, grass-bents, and leaves, well cemented together with mud, and lined with fine grass, is placed in a bush or tree, amongst ivy, on a wall, or even occasionally on the ground. The eggs 4 to 6 in number are usually greenish blue in ground colour, closely spotted with reddish brown, but are subject to considerable variety. *Merula maxima* Seebohm, is only a large form of the present species, and, it appears to me not even subspecifically separable.

21. GREY JAPANESE THRUSH.

TURDUS CARDIS.

Turdus cardis, Temm. Pl. Col. ii. p. 518, (1824); id. and Schleg. Faun. Jap. Aves. p. 65, pls. xxix, xxx; David and Oust. Ois. Chine. p. 150; (Seebohm), Cat. B. Br. Mus. xxv. p. 261.

Kuro-tsugu, Ko-ke, Japanese.

♂ *ad.* (Japan). Upper parts, neck and upper breast black; the wing-coverts, lower back rump and upper tail-coverts washed with slate grey; under parts white spotted with black; under wing-coverts and axillaries dark slate-grey; bill and legs yellow; iris dark brown. Culmen 0·8, wing 4·45, tail 3·0, tarsus 1·2 inch. The female is olivaceous brown above, white spotted with dark brown below, the breast and flanks washed with pale orange red; under wing-coverts and axillaries orange chestnut; bill brown. The young male resembles the female but has the breast and flanks washed with chestnut red.

Hab. Japan, wintering in southern China.

In habits not differing from its allies, frequenting woods, groves, and gardens. It is greatly esteemed as a cage-bird on account of its rich song. It breeds in Japan in May, June, and July; its nest being generally placed in the fork of a small tree and is constructed chiefly of moss. The eggs, 4 to 5 in number, resemble small eggs of *T. viscivorus* and measure about 1·7 by 0·84.

22. Siberian Thrush.

TURDUS SIBIRICUS.

Turdus sibiricus, Pall. Reis. Russ. Reichs. iii. p. 694, (1776); Gould. B. of Gt. Brit. ii. pl. 40; Dresser, ii. p. 87, pl. 12; David and Oust. Ois. Chine, p. 149; (Seebohm). Cat. B. Br. Mus. v. p. 180; (Tacz.) F. O. Sib. O. p. 282; (Oates), F. Brit. Ind. Birds, ii. p. 138; Saunders, p. 12; Lilford, iii. p. 89, pl. 45; Dresser, Ibis. 1901, p. 447, pl. ix. figs. 13, 16, (eggs). *T. bechsteinii*, Naumann, ii. p. 310, pl. 69, figs. 1, 2.

Toratsugumi, Mamie-jiro, Japanese.

♂ *ad.* (Japan). Upper parts black tinged with slate grey; under parts dark slate grey; middle of the abdomen and a conspicuous superciliary stripe white; bill blackish horn paler at the base; legs light brown; iris dark brown. Culmen 0·85, wing 4·65, tail 3·45, tarsus 1·2 inch. The female is olive brown above, white washed with buff below, the throat, breast, and flanks spotted with brown. In all plumages this species is recognizable in having a white or whitish band across the under surface of the wing.

Hab. Siberia, east of the Yenesei valley and Japan, wintering in China, Burma, Java, and Sumatra; the Adamans; has strayed to Europe where it has occurred in Turkey (once), Germany, France (once), and Great Britain (once).

In habits this thrush is essentially terrestrial, obtaining its food, which consists of worms, snails, insects, &c., on the ground, and it frequents wooded damp localities. Its song is said to be extremely sweet and melodious. It breeds in Siberia in from 66° to 68° N. lat., and in Japan, constructing a somewhat untidy nest of dry grass with a scanty wall of mud and an inner lining of coarse dry grass, which is usually placed in the fork of a tree a few feet from the ground. The eggs, 4 to 6 in number, are deposited late in June, and vary considerably, some resembling those of *T. viscivorus*, others being pale blue green finely spotted with reddish. In size they vary from 1·02 by 0·78 to 1·18 by 0·87.

23. Ring Ousel.

TURDUS TORQUATUS.

Turdus torquatus, Linn. Syst. Nat. i. p. 296 (1766); Naumann, ii. p. 318, Taf. 70; Hewitson, i. p. 93, pl. xxv. figs. 3, 4; (Gould.) B. of E. ii. pl. 73; id. B. of Gt. Brit. ii. pl. 38; Dresser, ii. p. 113, pl. 14; (Seebohm), Cat. B. Br. Mus. v. p. 246; Newton, i. p. 287; Saunders, p. 15; Lilford, iii. p. 94, pl. 47.

Merle à plastron, French; *Melro de peito branco*, Portug.; *Churlo*, Span.; *Merlo col petto bianco*, Ital.; *Ring-Amsel*, German; *Dominé* Dutch: *Ring-Drossel*, Dan.; *Ringtrost*, Norweg.; *Ring-Trast*, Swed.; *Cappis-rastas*, Lapp.; *Sepel-rastas*, Finn.; *Drozd-bielozobyi*, Russ.

♂ *ad.* (Scotland). Entire plumage brownish black except a white gorget extending across the lower throat; axillaries and under wing-coverts deep brown margined with white; bill orange; legs horn-brown; iris dark brown. Culmen 1·0, wing 5·7, tail 4·4, tarsus, 1·3 inch. Female dull brown, the gorget brownish white. In winter the feathers on the under parts are margined with white, and on the upper parts with brownish.

Hab. Europe, north to the North Cape, east to the Ural, south in winter to the Mediterranean and North Africa.

Frequents moors and especially highlands, but in the winter, and on passage is often seen in cultivated fields and gardens, and is as a rule very shy and wary. Its call-note is a sharp *teck, töck, töck*, and its song is monotonous and not of a high order. Its food is similar to that of its allies, and is obtained chiefly on the ground. It breeds in April or May, sometimes in June, its nest which resembles that of *T. merula*, being placed in a low bush, in rocks, banks, or on the ground, and the eggs 4 to 5 in number are pale green or watery blue, blotched and spotted with dark red and in size vary from 1·05 by 0·82 to 1·20 by 0·88.

24. SUBSP. TURDUS ALPESTRIS.

Turdus alpestris, Ch. Brehm. Isis, 1828, p. 1281; Naumann, Taf. 361, fig. 3; Dresser, ix. p. 9, pls. 15, 635.

♂ *ad.* (Transylvania). Differs from *T. torquatus* in having the feathers on the under parts broadly margined with white and with a large white median patch, the female also having broad white margins. In winter the feathers on the upper parts have broad brown margins, and the white portions of the plumage are duller in colour.

Hab. The mountain ranges of south central and southern (chiefly south-eastern) Europe; Asia Minor, and it is probably this form which is found in Persia. In winter it descends to the lowlands, and probably visits North Africa.

In habits it resembles *T. torquatus*, but its song is said to be more powerful and of a higher quality, and it differs in placing its nest in a tree, usually a spruce, at from 15 to 50 feet above the ground. Its eggs resemble those of *T. torquatus*, but are, as a rule, bluer in tone of ground colour, and less boldly marked.

OF THE UNIVERSITY OF CALIFORNIA

MONTICOLA, Boie, 1822.

25. ROCK THRUSH.

MONTICOLA SAXATILIS.

Monticola saxatilis, (Linn.) Syst. Nat. i. p. 294 (1766) ; (Naumann), ii. p. 348, Taf. 73 ; (Hewitson). i. p. 95. pl. xxvi. fig. 2 ; (Gould), B. of E. ii. pl. 86 ; (id.) B. of Gt. Brit. ii. pl. 44 ; Dresser, ii. p. 129, pls. 16, 17 ; Seebohm, Cat. B. Br. Mus. v. p. 313 ; Oates, F. Brit. Ind. Birds, ii. p. 147 ; Tacz. F. O. Sib. O. p. 319 ; Saunders, p. 17 ; Lilford, iii. p. 96, pl. 48.

Merle de roche, French; *Melro das rochas*, Portug.; *Mirlo pintado*, Span. ; *Codirossone*, Ital. ; *Steindrossel*, German ; *Kamennöi-Drozd*, Russ.

♂ *ad.* (Greece). Head and neck ashy cobalt blue ; fore part of back and scapulars black ; middle of back white ; rump grey and white ; upper tail-coverts and tail cinnamon, the middle rectrices darker ; wings brown ; under parts rich orange red ; bill black ; legs brown ; iris brown. Culmen 0·9, wing 4·7, tail 2·6, tarsus 1·15 inch. The female is brown above with darker markings and tinged with blue ; middle of back mottled with creamy buff ; chin and throat whitish ; rest of under parts buffy white. washed with orange and scalloped with brown. In winter the feathers above have reddish tips, and below white margins.

Hab. Central and southern Europe; Asia Minor and Asia north to southern Siberia, east to Dauria, south to China and northern India in winter and on passage ; north Africa on passage and Senegambia and Abyssinia in winter; England (once).

Frequents rocky and stony localities, old ruins, and gardens where there are old walls, and in general habits forms a link between the Thrushes and Chats. Its food consists of worms, beetles, and insects of various kinds and their larvæ. Its song is sweet and varied, and it is highly esteemed as a cage-bird. It breeds late in May or early in June, and places its nest, which is loosely constructed of roots and grass-bents, lined with fine rootlets, and occasionally a few hairs and feathers, in the crevice of a rock or amongst stones, and deposits 4 to 5 uniform light blue, or greenish blue eggs, which are sometimes finely dotted with pale rufous, and measure about 1·0 by 0·75.

26. WHITE THROATED ROCK THRUSH.

MONTICOLA GULARIS.

Monticola gularis (Swinhoe), P. Z. S., 1862, p. 318 (id) Ibis, 1863 p. 93, pl. iii ; David and Oust. Ois. Chine, p. 161, pl. xlii ; Tacz. F. O.-Sib. O. p. 323 ; Seebohm, Cat. B. Br. Mus. v. p. 326.

♂ *ad.* (S. E. Siberia). Head, nape, and lesser wing-coverts cobalt blue ; ear-coverts, sides of neck, back and scapulars blackish ; rump and upper tail-coverts chestnut ; wings and tail brown, the latter slightly washed with blue ; wing-coverts and inner secondaries paler margined ; a median line down the throat white ; rest of under parts chestnut red. Culmen 0·8, wing 3·9, tail 2·9, tarsus 0·95 inch. Female greyish brown above the back ; rump and sides of neck with semicircular brown and ochreous markings ; under parts greyish white, the middle of the throat and abdomen white ; breast and flanks barred with brown.

Hab. South-eastern Siberia, Manchuria and northern China, passing further south in winter, when it has been found in Cambodgia.

Differs from *M. saxatilis* in frequenting dense forests where there are old trees. Its song is clear and melodious and is generally uttered when the bird is perched on the top of an old tree. It breeds in south-east Siberia and Manchuria, but its nest and eggs are as yet unknown.

27. BLUE THRUSH.

MONTICOLA CYANUS.

Monticola cyanus, (Linn.) Syst. Nat. i. p. 296 (1766) ; Naumann, ii. p. 341, Taf. 72, figs. 1, 2 ; Gould, B. of E. ii. pl. 87 ; id. B. of Gt. Brit. ii. pl. 43 ; Dresser, ii. p. 139, pl. 18 ; David and Oust. Ois. Chine, p. 163 ; Seebohm, Cat. B. Br. Mus. v. p. 316 ; Oates, F. Brit. Ind. Birds, ii. p. 147.

Melro azul, solitario, Portug. ; *Solitario azul,* Span. ; *Passera solitaria,* Ital. ; *Blaumerle,* German ; *Goluboi-Drozd,* Russ.

♂ *ad.* (N. Africa). General colour dull cobalt blue, the head and neck glossed with silvery blue ; abdominal feathers and under tail-coverts with obsolete white margins ; axillaries and under wing-coverts blackish blue ; bill and legs blackish ; iris dark brown. Culmen 1·0, wing 4·9, tail 4·4, tarsus 1·15 inch. Female greyish brown, mottled with paler brown above the rump, washed with blue ; under parts warm buff, barred and mottled with dark brown. In winter the upper parts of the male have the feathers with paler margins, and the under parts with dull, white margins.

Hab. Southern Europe, wintering in Africa as far south as Abyssinia; Asia Minor and Asia through Persia, Turkestan, Afghanistan, Tibet, and China, wintering in India and southern China; of very doubtful occurrence in Great Britain.

Frequents rocky and desert places, ruins, etc., and feeds on insects of various kinds, and will also eat berries and fruit; its song is melodious but plaintive, and it is highly esteemed as a cage-bird. Its nest, which is loosely constructed of rootlets and grass-bents, is placed in a crevice in the rocks, in ruined buildings, and even, in rare cases, in a low bush, and from April to June, according to latitude, 4 to 5 eggs are deposited, which are pale blue, sometimes marked with a few pale reddish dots at the larger end, and measure from 1·10 by 0·76 to 1·13 by 0·77.

28. SOLITARY THRUSH.

MONTICOLA SOLITARIUS.

Monticola solitarius (P. L. S. Müller), Syst. Nat. Suppl. p. 145 (1776); David and Oust. Ois. Chine, p. 161; Seebohm, Cat. B. Br. Mus. v. p. 319; Tacz. F. O.-Sib. O. p. 321; *M. manillensis* (Gmel.), Syst. Nat. i. p. 833 (1788); (Temm. and Schleg.), Faun. Jap. Aves. p. 6.

Iso-hio-dori, Jap.

♂ *ad.* (Japan). Differs from *M. cyanus*, in having the upper parts rather bluer, and all the under parts from the lower breast rich chestnut-red; beak and legs black; iris brown. Culmen 1·0, wing 4·8, tail, 3·3, tarsus 1·1 inch. The female has the under parts pale whitey brown, washed with buffy brown, and barred with dark brown.

Hab. South-east Siberia, Japan, Corea, North-East China and Formosa, wintering in S. E. China, and the islands of the Malay archipelago.

Frequents similar localities to *M. cyanus* and resembles that species in general habits and nidification; its eggs are also similar but as a rule rather larger. It is said to be very shy and wary, and its song is described as being varied, melodious, and of a very high order.

CINCLUS, Bechst. 1802.

29. Black-Bellied Dipper.

CINCLUS MELANOGASTER.

Cinclus melanogaster, Brehm. Lehrb. Eur. Vög. i. p. 289 (1823) ; Gould, B. of Gt. Brit. ii. pl. 42 ; Newton, i. p. 244 ; Dresser, ii. p. 177, pl. 20, fig. 2 ; Sharpe, Cat. B. Br. Mus. vi. p. 311 ; Saunders, p. 97 ; Lilford iii. p. 102, pl. 51.

Strœmstœr, Dan. ; *Fossekal*, Norweg. ; *Strömstare*, Swed. ; *Koskikara*, Finn. ; *Quoikgarek*, Lapp ; *Vodianoi-vorobei*, Russ.

Ad. (Sweden). Crown and nape blackish brown ; wings and tail blackish brown, externally margined with slate grey ; back dark slate grey, squamated with blackish ; throat, fore part of breast, and a small spot above and below the eye, pure white ; rest of under parts blackish brown, the flanks washed with slate grey ; bill blackish ; legs brown ; iris dark brown. Culmen 0·9, wings 3·7, tail, 2·25, tarsus 1·2 inch. The young bird has the upper parts dull slaty brown, the wing feathers tipped with white, the under parts white, barred with brown, flanks and anal regions slaty brown.

Hab. Scandinavia and Northern Europe, east to the Ural ; the Færoes but not Iceland, in winter straying to N. Germany, Holland, Belgium, and England.

The Dippers, both the present species and its allies, are essentially water frequenters, living on running streams, especially where there are rapids and waterfalls. They are non-migratory only shifting their quarters in winter to lower altitudes when driven from their haunts by stress of weather. They dive with ease, and progress under water, using their wings as a mode of progression, and seek their food chiefly under water. They feed on aquatic insects of various kinds and their larvæ, and do not, as has been asserted, devour the spawn of fish. Their flight is rapid and direct, usually not high above the surface of the water. Their call note is a sharp *chit-chit*, and their song is pleasing though short, reminding one of that of the Wren. The nest is usually domed, constructed of various kinds of mosses forming a close felted mass with the entrance-hole in front, and lined with grass stems rootlets and dead leaves. *Cinclus albicollis* is however said to build an open nest. The eggs 4 to 5 in number are pure white, glossy in texture of shell, rather elongated in shape averaging about 1·0 by 0·73, and are deposited in March or April and two broods are usually reared in the season. The nest is carefully concealed, placed under shelter of an overhanging crag or rock close to the water, sometimes behind a small waterfall. Dippers being essentially non-migratory, isolation has caused the group to be separated into various local forms which have become permanently distinct and separated, though the differences are but slight; but they do not appreciably differ in note, food, habits, or nidification, and it appears to me advisable to treat these as sub-species, which have probably descended from one parent stock, most likely *C. melanogaster*.

30. SUBSP. CINCLUS AQUATICUS.

Cinclus aquaticus, Bechst. Orn. Taschenb. i. p. 206 (1802); Naumann, iii. p. 925, Taf. 91; Hewitson, i. p. 77, pl. xxii.; Gould B. of E. ii. pl. 83; Newton, i. p. 241; Dresser, ii. p. 167, pl. 19; Sharpe, Cat. B. Br. Mus. vi. p. 307; Saunders, p. 97; Lilford, iii. p. 99, pl. 50.

Aguassiére, Cincle-Plongeur, French; *Waterspreeuw*, Dutch; *Wasseramsel*, German.

Ad. (Scotland). Differs from *C. melanogaster* in having the lower breast rich rusty-red, this colour merging into the black of the rest of the under parts. Culmen 0·82 to 0·9, wing 3·25 to 3·6, tail 2·1 to 2·45, tarsus 1·05 to 1·25 inch.

Hab. Great Britain and Ireland, France, Belgium, Holland, and Central Europe generally.

31. SUBSP. CINCLUS PYRENAICUS.

Cinclus pyrenaicus, Dresser, Ibis, 1892, p. 382.

Ad. (Pyrenees). Differs from *C. melanogaster*, in having the wing shorter, the upper parts pale brown, especially the head and neck, and the under parts are paler and browner in tinge. Culmen 0·85, 0·95, wing 3·1 to 3·4, tail 2·0, tarsus 1·1 inch.

Hab. Pyrenees.

32. SUBSP. CINCLUS MINOR.

Cinclus minor, Tristram, Ibis, 1870, p. 497; Dresser, ix. p. 20.

Ad. (N. Africa). Resembles *C. pyrenaicus*, but is rather more rufous on the under parts, and has a narrow dull rufous band bordering the white. Culmen 0·85, wing 3·2, tail 2·0, tarsus 1·15 inch.

Hab. Atlas Mountains N. Africa.

33. SUBSP. CINCLUS ALBICOLLIS.

Cinclus albicollis, (Vieill.) Nouv. Dict. d'Hist. Nat. i. p. 219 (1816); Dresser, ii. p. 181, pl. 20, fig. 1; Sharpe, Cat. B. Br. Mus. vi. p. 310.

Ad. (N. Italy). Resembles *C. aquaticus*, but has the upper parts paler and the breast much brighter rufous, this colour extending on to the abdomen. Culmen 0·85 to 0·9, wing 3·2 to 3·45, tail 2·0 to 2·4, tarsus 1·15 to 1·27 inch.

Hab. Switzerland Savoy and Southern Europe as far east as Greece and Turkey.

34. SUBSP. CINCLUS RUFIVENTRIS.

Cinclus rufiventris, Hempr. and Ehr. Symb. Phys. fol. *b. b.* (1828); Dresser, ix. p. 20.

Ad. Resembles *C. albicollis*, but has the abdomen rufous brown, and the brown on the upper parts extend down to the interscapulary region without squamations, as in *C. cashmiriensis*. Culmen 0·87, wing 3·15, tail 2·1, tarsus 1·15. inch

Hab. Palestine.

35. SUBSP. CINCLUS CASHMIRIENSIS.

Cinclus cashmiriensis, Gould, P. Z. S. 1859, p. 489; id. B. of Asia, iv. pl. 25; Dresser, ix. p. 17; Sharpe, Cat. B. Br. Mus. vi. p. 312; Oates, F. Brit. Ind. Birds ii. p. 162.

Ad. (Transcaspia). Upper parts as in *C. melanogaster*, but rather paler, the brown extending over the interscapulary region, the squamations commencing only below that part; under parts rather paler than in *C. melanogaster*, and the flanks less grey. Culmen 0·8 to 3·9, wing 3·25 to 3·9, tail 1·1 to 3·5, tarsus 1·8 to 2·5 inch.

Hab. Asia Minor, the Caucasus, Persia, Afghanistan, and Kashmir, east as far as Chinese Mongolia.

36. SUBSP. CINCLUS BAICALENSIS.

Cinclus baicalensis, Dresser, Ibis, 1892, p. 385; id. B. of Eur. ix. p. 20.

Ad. (Lake Baikal). Differs from *C. cashmiriensis* in having the upper parts of a peculiar velvety, mouse-brown colour, the head and neck paler than the back, the entire upper parts down to the rump mouse-brown unsquamated, the lower rump and upper tail-coverts alone being squamated or marked with semicircular bars, and the dark portions of the under parts dull, dark-earth-brown. Culmen 0·8 to 0·9, wing 3·2 to 3·6, tail 2·0 to 2·1, tarsus 1·1 to 1·15 inch.

Hab. Siberia, in the Baikal district.

37. SUBSP. CINCLUS LEUCOGASTER.

" *Cinclus leucogaster* Eversm." Bonap. Consp. Gen. Av. i. p. 252 (1850); Gould, B. of Asia, iv. p. 24; Dresser ix. p. 20; Tacz. F. O. Sib., O. p. 211.

Ad. (Dauria). Differs from *C. baicalensis* in having the head and neck paler, and the under parts down to the vent white, excepting the flanks, which are brown. Culmen 0·8 to 0·9, wing 3·25 to 3·85, tail 2·0 to 2·4, tarsus 1·1 to 1·25 inch.

Hab. Altai range, Turkestan, Mongolia, and the countries north of Kashmir, ranging into the Baikal district.

38. SUBSP. CINCLUS SATURATUS.

Cinclus saturatus, Dresser, ix. p. 20 (1895). *C. sordidus*, (nec. Gould), Tacz. F. O. Sib., O. p. 214.

Ad. (Baikal District). Differs from *C. baicalensis* in having the white on the throat and breast obscured by brown so that the separts are whity-brown and not white. Culmen 1·2, wing 3·7, tail 2·35, tarsus 1·12 inch.

Hab. Irkutsk to the Baikal district, to S.W. Kansu and N, Tibet.

This is evidently the *Cinclus sordidus* of Russian authors, for the type was sent to me from Russia, as belonging to that species, from which, however, it differs considerably.

39. BROWN DIPPER.

CINCLUS ASIATICUS.

Cinclus asiaticus, Swains., Faun. Bor. Amer. Birds, p. 174 (1831), Gould, B. of Asia, iv. pl. 21; Sharpe, Cat. B. Br. Mus. vi. p. 314, Oates, F. Brit. Ind. Birds, ii. p. 163.

Nambong-karriak Lepch; *Chubia-nakka*, Bhut.

Ad. (Turkestan). Entire plumage chocolate brown, the head and neck rather paler, the feathers in places with rather paler margins. Culmen 0·92, wing 4·1, tail 2·95, tarsus 1·18 inch. The young have the upper parts grey, the feathers tipped with black, the sub-terminal portion more or less whitish, the quills and wing-coverts tipped and margined with white, tail dark brown tipped with white ; sides of head grey with white shaft-streaks ; under parts grey marked like the upper parts but with more pronounced black tips and sub-terminal white patches.

Hab. Turkestan, Afghanistan, and the Himalayas from Gilgit to Bhutan.

Like the white-breasted Dippers, this species frequents running streams, especially in rocky localities, and in general habits and note does not differ from those. It is found in the mountains at elevations of from 11,000 to 14,000 feet, according to the season. It breeds from March to December, the nest being large globular masses of moss, like a gigantic Wren's nest, and lined with dry leaves, fern, and fine rootlets, and placed in the cleft of a rock, usually overhanging the water. The eggs 5 in number are pure white like those of *C. melanogaster*, and average about 1·0 by 0·72.

40. Sombre Dipper.

CINCLUS SORDIDUS.

Cinclus sordidus, Gould, P.Z.S. 1859, p. 494 ; id. B. of Asia, iv. pl. 23 ; Sharpe, Cat. B. Br. Mus. vi. p. 317 ; Oates, F. Brit. Ind. Birds, ii. p. 165.

Ad. Head and neck brown with a faint rufous tinge ; upper parts blackish slate ; wings and tail dark brown, externally margined with slate ; sides of head, throat, and breast pale chocolate or rufous buff ; rest of the under parts dull dark umber-brown, the lower flanks and tail-coverts washed with slate. Culmen 0·8, wing 3·25, tail 1·8, tarsus 1·15 inch.

Hab. Northern Kashmir and Ladak. It is said to occur in Northern Tibet, but I have never seen a specimen from there, nor indeed any but the type which was obtained in Kashmir. It does not differ from its allies in habits, and its nest and eggs are unknown.

41. Pallas's Dipper.

CINCLUS PALLASI.

Cinclus pallasi, Temm. Man. d'Orn. éd. 2, i. p. 177 (1820) ; Gould, B. of E. ii. pl. 85, id. B. of Asia, iv. pl. 22 ; Sharpe, Cat. B. Br. Mus. vi. p. 316 ; Oates, F. Brit. Ind. Birds, ii. p. 164 ; (David and Oust.) Ois. Chine, p. 146 ; Tacz. F. O. Sib., O. p. 216.

Ad. (Japan). General plumage blackish brown or deep chocolate brown much darker than *C. asiaticus* ; edge of the eyelid white ; abdomen blackish brown ; wings and tail blackish, externally margined with chocolate brown; bill blackish-horn; legs plumbeous in front; dusky behind; iris hazel. Culmen 1·0, wing 4·15, tail 2·65, tarsus 1·35 inch. The young bird has the sides of the head and neck, and the upper parts generally blackish brown with sub-terminal rufous margins; wings and coverts with white or pale rufous margins; tail black narrowly tipped with white; under parts blackish brown, the feathers fringed with ashy.

Hab. Eastern Siberia, Kamchatka, Corea, Japan, and the greater part of China.

In general habits it is said not to differ from its congeners, and like them frequents running streams, chiefly in the mountains. I do not find any description of its nest, but its eggs are similar to those of the European Dipper.

SAXICOLA, Bechstein, 1802.

42. THE WHEATEAR.

SAXICOLA ŒNANTHE.

Saxicola œnanthe, (Linn.), Syst. Nat. i. p. 332, (1766); Hewitson, i. p. 110, pl. xxx. fig. 3; Naumann, iii. p. 863, Taf. 89, figs. 1, 2; Gould, B. of Gt. Brit. ii. pl. 65; Newton, i. p. 347 (1873); Dresser, ii. p 187, pl. xxi; Seebohm Cat. B. Br. Mus. V. p. 391; Oates, F. Brit. Ind. Birds, ii. p. 76; Tacz. F. O. Sib., O. p. 352; Saunders, p. 19; Lilford, iii. p. 22, pl. 11.

Motteux-cul-blanc, French; *Caiada*, Portug.; *Culiblanco*, Span.; *Culbianco*, Ital.; *Steinschmätzer*, German: *Tapint*, Dutch; *Stenskvette*, Dan., *Stendulp*, Norweg.; *Stenskvätta*, Swed.; *Katgirastis*, Lapp; *Kivitasku*, *Kivi-rastas*, Finn.; *Poputchick*, Russ. *Stendepill*, *Icel.*

♂ *ad.* (Sweden). Upper parts to the rump ashy grey; forehead, a superciliary line, rump and upper tail-coverts white; a line from the lores to the ear-coverts black; wings blackish brown, central rectrices white at the base, otherwise black; remaining rectrices white broadly tipped with black; under parts white, or white washed with buff; under wing-coverts and axillaries mixed black and white; bill and legs black; iris brown. Culmen 0·75, wing 3·8, tail 2·35, tarsus 1·1 inch. The female has the upper parts brown; wings hair brown; tail as in the male but the black portion is brown in the female, under parts light reddish brown. The young resemble the female. In winter the male has the upper parts more or less brown, the under parts more rufous, the secondaries and wing-coverts edged with rufous, and the female is more rufous in tinge and has the secondaries and wing-coverts edged with rufous.

Hab. Europe generally, north to Iceland and Greenland, south to the Mediterranean, and northern Africa in winter; Asia

Minor and Asia, north to northern Siberia, east to China, and south to N. India; a somewhat rare visitant to N. America.

Frequents open localities, both barren and fertile, especially stony places. It is essentially a ground bird, not perching on trees or bushes. Its flight is low, and not powerful, and its song, which is uttered either on the wing, or when perched on a stone or clod is sweet, but short. It breeds in the northern and central portions of its range, and its nest, which is large and flat, is loosely constructed of grasses, moss, rootlets, &c., and lined with moss, hair, feathers, wool, and is placed in a hole in a wall, amongst stones, in a rabbit burrow, or under a clod or stone on the ground. The eggs, usually from 5 to 7 in number, are deposited in April or May, and are pale blue, with a faint greenish tinge, usually unspotted, but occasionally with a few red dots; in size they vary from 0·80 by 0·57 to 0·90 by 0·65.

Specimens of the Wheatear vary considerably in size, those from Greenland being the largest, and those from Palestine and Egypt the smallest.

43. SEEBOHM'S WHEATEAR.

SAXICOLA SEEBOHMI.

Saxicola seebohmi, Dixon, Ibis. 1882, p. 563, pl. xiv. Dresser, ix. p. 23, pl. 636; Koenig, J. f. O. 1895, p. 185, Tabb. iii., v. fig. 2.

♂ *ad.* (Algeria). Upper parts as in *S. œnanthe*, but the wings and dark portion of the tail are black, the lores, chin, sides of the head below the eye and the throat are black; rest of the under parts white; axillaries and under wing-coverts black edged with white at the tip; bill and legs black; iris dark brown. Culmen 0·68, wing 3·87, tail 2·45, tarsus 1·05 inch. The female resembles *S. œnanthe*, but is browner in colour. The young male differs from the adult in having the upper parts tinged with sandy buff, the black on the throat less extended, the wings brownish black, and the under parts dull white.

Hab. Algeria.

Frequents desolate, stony localities, and is not shy. Nothing is as yet known of its nidification.

44. EHRENBERG'S WHEATEAR.

SAXICOLA VITTATA.

Saxicola vittata, Hempr. and Ehr. Symb. Phys. Aves. fol. C. C. (1828); Dresser, ix. p. 25, pl. 637 (1895).

♂ *ad.* (Arabia). Crown and hind-neck greyish white; back, wings, and a broad band from the lores to the base of the wing black; central tail-feathers white at base, otherwise black, remaining rectrices white, terminated with black; rest of the plumage white; bill and legs black; iris brown. Culmen 0·7, wing 3·9, tail 2·59, tarsus 0·7 inch. The female is said to resemble that of the Eastern pied chat, but to have the throat white. The young male has the crown obscured by dirty grey, the black portions of the plumage tinged with brown and the underparts washed with buff.

Hab. Transcaspia, Turkestan, and Gilgit, migrating for the winter to Arabia and Abyssinia.

It is said to breed in North Western Turkestan, but nothing is on record respecting its nidification, and but little is known of its habits.

45. PIED WHEATEAR.

SAXICOLA LUGENS.

Saxicola lugens, Licht. Verz. Doubl. p. 33, (1823), Seebohm, Cat. B. Br. Mus. v. p. 370; *S. leucomela*, (Pall.), Dresser, ii. p. 231, pl. 33, fig. 2; *S. erythræa*, id. ii. p. 219, pls. 28, 29; Koenig, J. f. O. (1895), p. 206, Tabb. iv. v. fig. 1; *S. persica*, Seebohm, Cat. B. Br. Mus. v. p. 372 (1881).

♂ *ad.* (Egypt). Crown, nape, rump, upper tail-coverts and basal part of tail, breast, and abdomen white, the crown tinged with grey; back wings, sides of head, and neck, throat and upper flanks black; central tail-feathers white at base, otherwise black, remaining tail-feathers white broadly tipped with black, all with narrow terminal white tips; under wing-coverts and axillaries black, inner quill-webs white; under tail-coverts pale rufous; legs and beak black; iris brown. Culmen 0·7, wing 3·75, tail 2·75, tarsus 1·0 inch. The female has the black replaced by brown, the head and nape washed with isabelline; entire under parts nearly white, the under tail-coverts washed with buff. The young male resembles the female but has the lores, ear-coverts, and cheeks nearly black, the throat varying from grey to dull black.

Hab. N. Africa from Algeria to Egypt; Nubia, Abyssinia, Arabia, Palestine, ranging east to Shiraz in Persia, and Sind. In habits it does not differ from its allies. It breeds in April and May, its nest being usually placed in a hole in the ground, and well concealed. Its eggs 5 to 6 in number, are deep blue-green spotted and blotched with reddish-brown.

Saxicola persica, of which I have examined the type, does not appear to me to be separable from this species.

46. EASTERN PIED WHEATEAR.

SAXICOLA MORIO.

Saxicola morio, Hempr. and Ehr. Symb. Phys. fol. *a a* (1828); Dresser, ii. p. 235, pl. 33, figs. 1–3; Seebohm, Cat. B. Br. Mus. v. p. 372; *Saxicola hendersoni*, Hume, Ibis, 1871, p. 408; *Saxicola talas*, Severtzoff, Turk. Jevot. p. 65, pl. viii. figs. 1, 3, 4 (1873); *S. pleschanka* (Lepech), Oates, F. Brit. Ind. Birds, ii. p. 73 (1890).

♂ *ad.* (Crimea). Differs from *S. lugens* in having the inner webs of the primaries black, these being white in that species, and the under tail-coverts and crissum are usually pure white. Culmen 0·7, wing 3·8, tail 2·5, tarsus 0·8 inch. The female has the crown, nape, and back, and the under parts down to the breast earthy brown, the throat marked with black. The young bird in first plumage resembles the female, but the dorsal feathers have pale margins, the lower throat and neck are dull isabelline, the pectoral band largely developed; flanks tinged with isabelline; wings brown; tail tipped with buff; base of the mandible brown.

Hab. Cyprus, the Crimea and the lower valley of the Volga, east to Kashmir, south-eastern Siberia, Tibet, Mongolia, and northern China, wintering in N.W. India, Abyssinia, and Arabia, and occasionally in Gilgit.

In general habits it differs somewhat from its congeners in frequently perching on bushes and even on the branches of trees. Its song is described as feeble but agreeable. It breeds in Siberia, north China, Afghanistan, and as far west as Palestine and Cyprus, and places its nest amongst stones, or in a cleft of a rock and deposits in June from 4 to 6 eggs, which are plain pale blue, unspotted or marked with fine red dots, chiefly at the larger end, and measure 0·725 by 0·565.

47. HOODED WHEATEAR.

SAXICOLA MONACHA.

Saxicola monacha, Rüpp. in Temm. Pl. Col. pl. 359, fig. 1 (1825); Dresser, ii. p. 239, pl. 34; Shelley, B. of Egypt, p. 78, pl. ii. Seebohm, Cat. B. Br. Mus. v. p. 369; Oates, F. Brit. Ind. Birds, ii. p. 69; *S. pallida*, Rüpp. Atlas. Taf. 34 (1826); *S. gracilis*, Licht. Nomencl. Av. p. 54 (1854).

♂ *ad.* (Egypt). Crown, nape, lower back rump, upper tail-coverts and under parts below the breast white; mantle, wings, throat, sides of neck and breast jet black; central rectrices with terminal half dark brown, the basal part and all the outer rectrices white, the latter with a few brown spots towards the tip; beak and legs black iris brown. Culmen 0·92, wing 4·1, tail 3·2, tarsus 0·95 inch. The female has the upper parts to the rump hair brown, quills and terminal portion of central rectrices darker brown; rump, upper tail-coverts, and tail pale yellowish rufescent; under parts creamy white.

Hab. Egypt, Nubia, Palestine, east through Persia to Baluchistan and Afghanistan.

Throughout its range this Wheatear is said to be resident. In its general habits it does not differ from its allies, but nothing definite is known respecting its nidification. It is easily recognizable by its long bill.

48. Black and White Wheatear.

SAXICOLA ALBINIGRA.

Saxicola albinigra, Hume, Stray Feathers, i. p. 2 (1873); Blanford, E. Pers. ii. p. 153, pl. xi; Dresser, ix. p. 27, pl. 638, fig. 2; Oates, F. Brit. Ind. Birds, ii. p. 70; Seebohm, Cat. B. Br. Mus. v. p. 366.

♂ *ad.* (Persia). Head, neck, upper back, wings, axillaries, and wing-coverts and terminal portion of tail deep black; rest of plumage white; tail narrowly tipped with white; beak and legs black; iris brown. Culmen 0·8, wing 3·9, tail 2·55, tarsus 1·05 inch. The female and young do not differ from the male.

Hab. Persia, Baluchistan, Afghanistan, Sind, and Gilgit.

Throughout its range this species appears to be resident, inhabiting the hills in summer and the lowlands in winter, and does not seem to differ from its allies in its general habits. In May Mr. Blanford found it nesting in a small cave under a limestone hill near Karmán, but the nest contained young birds. Mr. Zarudny, from whom I have received an egg, took the nest in Baluchistan on the 14th of May, 1901. The egg is very pale greenish blue, with a few scarcely visible reddish spots at the larger end, and measures 0·91 by 0·61.

49. Indian Pied Wheatear.

SAXICOLA PICATA.

Saxicola picata, Blyth, J. As. Soc. Beng. xvi. p. 131 (1847); Blanf. E. Persia, ii. p. 153; Gould, B. of Asia, iv. pl. 26; Seebohm, Cat. B. Br. Mus. v. p. 367; Dresser, ix. p. 29, pl. 639; Oates, F. Brit. Ind. Birds, ii. p. 71.

♂ *ad.* (Sind). Head, neck, throat, upper breast, back, and wings deep dull black; rump, upper tail-coverts, and under parts white; tail as in *S. œnanthe;* bill and legs black; iris brown. Culmen 0·65, wing 3·5, tail 2·7, tarsus 1·0 inch. The female differs in having the black portions of the plumage brown, the chin greyish brown. The young bird resembles the female, but has the under parts mottled. The old male has the crown more or less white, especially just before the moult.

Hab. Transcaspia, ranging east through Afghanistan and Persia to Gilgit, wintering in the lowlands, and on the plains of India, and has been recorded from Muscat in Arabia.

Frequents rocky localities and during the breeding season is found in the mountains to an altitude of nearly 6000 feet. It breeds from March to July, its nest, which is placed in a hole of a wall or cranny of a rock, is constructed of grass and lined with feathers, and the eggs, 4 to 5 in number, are pale greenish blue, marked chiefly at the larger end, with pale rusty-red, and measure 0·8 0·82 by 0·55 to 0·57.

50. WHITE-HEADED WHEATEAR.

SAXICOLA CAPISTRATA.

Saxicola capistrata, Gould, B. of Asia, iv. pl. 28 (1865) ; Seebohm, Cat. B. Br. Mus. v. p. 368 ; Oates, F. Brit. Ind. Birds, ii. p. 72 ; *S. leucomela*, Jerdon, B. of Ind. ii. p. 131.

♂ *ad.* (Afghanistan). Differs from *S. picata*, in having after the autumn moult the forehead, crown, nape, and hind neck greyish white, sometimes whiter over the eye and ear-coverts. Soon after the autumn moult the crown becomes whiter. Culmen 0·65, wing 3·6, tail 2·7, tarsus 1·0 inch. The female resembles that of *S. picata*, but the upper parts are more sandy, and the chin, throat, and breast are light fulvous.

Hab. Turkestan, Afghanistan, and the plains of India as far south as Jodhpur and Sambhar and as far east as the Jumna river.

In its habits it does not appear to differ from *S. picata* but nothing is known of its breeding habits. It appears to be resident throughout its range.

51. WHITE-RUMPED WHEATEAR.

SAXICOLA LEUCOPYGA.

Saxicola leucopyga, (Brehm), Vogelfang, p. 225 (1855) ; Dresser, ii. p. 243, pl. 35 ; Seebohm Cat. B. Br. Mus. v. p. 374.

Boudjahar, Arab.

♂ *ad.* (Nubia). Crown, nape, rump, tail-coverts, and all the tail-feathers except the middle ones white ; terminal half of these last and two-thirds of the shafts black, the basal half white ; rest of plumage glossy black ;

beak and legs black; iris brown. Culmen 0·82, wing 4·1, tail 2·9, tarsus 1·1 inch. The female does not differ from the male, but the young bird has the black duller, and the crown black, with occasionally a white feather or two.

Hab. Algeria, ranging east to Egypt, Nubia, and Arabia, and north to Palestine. Everywhere resident.

It frequents rocky and stony places preferring the granite and limestone ranges and is shy and cautious. Its song is sweet and melodious. It feeds on insects but is said to eat the seeds of the pomegranate. It breeds in March, the nest being placed in a hole of a rock, but the eggs are, so far as I can ascertain, as yet unknown.

52. BLACK WHEATEAR.

SAXICOLA LEUCURA.

Saxicola leucura (Gmel.), Syst. Nat. i. p. 820 (1788); Dresser, ii. p. 247, pl. 36; Seebohm, Cat. B. Br. Mus. v. p. 375; Koenig. J. f. O. 1895, Taf. vi. (nest and eggs); *S. cachinnans*, Temm. Man. d'Orn. i. p. 236 (1820).

Kŏcheĭl, Arab.

♂ *ad.* (Algeria). Upper and under tail-coverts pure white; terminal half of middle and tips of the remaining rectrices black, the rest of the tail white; all the rest of the plumage, the beak and legs black; iris brown. Culmen 0·91, wing 3·66, tail 2·92, tarsus 1·08 inch. In the female the black is brownish black. The young bird is dull black, the under tail-coverts tipped with dull white, the upper tail-coverts pure white, and the tail black, tipped with white.

Hab. Southern Europe from Portugal to Greece, and Algeria, and is a resident, but many of those which breed in south Europe pass the winter in north Africa.

It frequents desolate stony localities and is shy but very lively in its habits. Its song is said to resemble that of the Blue Rock Thrush but is not so loud or clear. Its nest is placed in a hole, and it protects it by heaping up small stones at the entrance. It is constructed of dried plants and grass-bents and lined with hair and feathers. The eggs, from 4 to 6 or even 7 in number, are deposited from March to May and are very pale greenish blue, spotted at the larger end with pale rusty-red and measure 0·9 by 0·68.

53. STRICKLAND'S WHEATEAR.

SAXICOLA OPISTHOLEUCA.

Saxicola opistholeuca, Strickl, in Jardine's Contrib. Orn. 1849, p. 60; (Gould) B. of Asia, iv. pl. 27; Blanf. and Dresser, P. Z. S. 1874, p. 229; Seebohm, Cat. B. Br. Mus. v. p. 376; Oates, F. Brit. Ind. Birds ii. p. 73; *S. leucuroides*, Guér. Jerdon, B. of Ind. ii. p. 130 (1863).

♂ *ad.* (India). Rump, upper and lower tail-coverts, and lower part of abdomen white; rest of the plumage black except the tail, which has the middle feathers white on the basal third, otherwise black; the remaining feathers white, broadly tipped with black; bill and legs black; iris brown. Culmen 0·6, wing 3·65, tail 2·8, tarsus 0·9 inch. The female resembles that of *S. picata*, but is very dusky throughout, and has the ear-coverts rich brown.

Hab. Turkestan, wintering in Afghanistan and the plains of India from the Punjab down to Khandesh and Nagpur, and from Sind to Etawah in the N.W. Provinces and has been also recorded from the lower hills of the Sutlej valley.

In habits this species does not seem to differ from its allies, but I can find nothing on record respecting its nidification.

54. RUSSET WHEATEAR.

SAXICOLA STAPAZINA.

Saxicola stapazina (Vieill.), Nouv. Dict. xxi. p. 425 (1818); Gould, B. of E. ii. pl. 91; Naumann, iii. p. 879, Taf. 90, fig. 1, 2; Seebohm, Cat. B. Br. Mus. v. p. 387; Saunders, p. 23 (1889); *S. rufa* (Brehm); Dresser, ii. p. 207, pl. 24, pl. 25, fig. 2.

Cul-blanc roux, French; *Caiada*, Portug.; *Ruiblanca*, Span.; *Monachella colla gola nera*, Ital.; *Boudjahar*, *Naïsch*, Arab.

♂ *ad.* (S. Spain). Crown, back, rump, upper tail-coverts, breast, and abdomen white, rest of the plumage black, crown marked with grey; breast and back washed with rufous isabelline; tail as in *S. œnanthe;* beak and legs black; iris brown. Culmen 0·68, wing 3·65, tail 2·6, tarsus 0·95 inch. The adult female has the upper parts earthy brown to the rump, which with the upper tail-coverts is white; tail as in the male; wings brown; throat greyish white, without any traces of black; rest of the under pale dull rufous white. In the winter the male has the upper parts pale ferruginous, the head browner, the breast lighter ferruginous, the abdomen and under tail-coverts washed with rufous; quills brownish, the wing-coverts and secondaries with rufous margins; the black feathers of the throat margined with white. The female is similar, but duller in colour, lacks the black on the throat, and has the under parts dull rufous, darkest on the breast.

Hab. South-western Europe from Portugal to Italy; Morocco and Algeria, migrating south at the approach of winter; has strayed as far north as Heligoland and has once occurred in England, near Bury in Lancashire, 8th of May, 1875.

In general habits it resembles the common Wheatear, but affects more arid and stony localities than that species, and is shy and difficult of approach. It feeds on insects of various kinds and is said to occasionally eat berries. Its nest is loosely constructed of dried grass-bents and lined with hair and is usually placed in a hole in an old wall or rock. The eggs, 4 or 5 in number, are deposited in May and are pale bluish green marked with rusty-red, and in size are rather smaller than those of *S. œnanthe.*

55. Black-throated Wheatear.

SAXICOLA MELANOLEUCA.

Saxicola melanoleuca (Güld.), Nov. Com. Petr. xix. p. 468, pl. 15 (1775); Dresser, ii. p. 211, pls. 26, 25, fig. 1; Seebohm, Cat. B. Br. Mus. v. p. 385; *S. xanthomelæna* et *S. eurymelæna*, Ehr. Symb. Phys. (1828).

♂ *ad.* (Asia Minor). Differs from *S. stapazina* only in the black on the throat less extended, and the white portions of the plumage are much purer white, and it passes through exactly the same stages of plumage as that species.

Hab. South-eastern Europe and western Asia, ranging from Greece through south Russia, the Crimea, Asia Minor, and Persia, as far east as Yarkand, and migrating for the winter to Egypt, Nubia, and Abyssinia.

Does not differ from *S. stapazina* in habits or nidification. Its nest which is usually rather large is constructed of grass-bents and rootlets and is placed in a cleft of a rock, in carefully selected almost inaccessible places, and its 4 or 5 eggs resemble those of *S. stapazina*, but are as a rule somewhat brighter in colour and more richly marked.

56. Black-eared Wheatear.

SAXICOLA ALBICOLLIS.

Saxicola albicollis (Vieill.), Nouv. Dict. xxi. p. 424 (1818); *S. aurita* Temm. Man. d'Orn. i. p. 241 (1820); Gould, B. of E. ii. pl. 92; Seebohm, Cat. B. Br. Mus. v. p. 394; *S. stapazina*, Dresser, ii. p. 203, pl. 23; *S. rufescens*, Savi, Orn. Tosc. i. p. 223 (1827); Naumann, xiii. p. 134, Taf. 376.

Traquet oreillard, French; *Caiada*, Portug.; *Sacristan* Span.; *Monachella*, Ital.

♂ *ad.* (Asia Minor). A narrow frontal line, lores, and a large patch extending to beyond the ear-coverts, wings and wing-coverts deep black; tail as in *S œnanthe;* rest of plumage, including the throat, white; the breast and back slightly washed with rufous; bill and legs black; iris brown. Culmen 0·62, wing 3·5, tail 2·65, tarsus 1·0 inch. The female has the dark portions of the plumage brownish black, the crown, nape, and back brownish grey. In the winter the white portions of the plumage are washed with rufescent isabelline.

Hab.. S. Europe, Asia Minor, Palestine, Persia; Morocco, Algeria, Egypt, and Arabia, migrating further south in winter.

Does not differ in habits from *S. stapazina.* Its nest is constructed of grass-bents lined with hair and is usually placed on the ground. The eggs 4 to 5 in number are pale bluish with a zone of brown spots at the larger end and are usually deposited in May. Mr. Whitaker (Ibis, 1898, p. 625) separates under the name of *S. catarinæ* the western from the eastern bird, but it seems to me, without valid reason.

57. ARABIAN WHEATEAR.

SAXICOLA FINSCHI.

Saxicola finschi, Heugl. Orn. N. O. Afr. i. p. 350 (1869); Seebohm, Cat. B. Br. Mus. v. p. 388; *S. erythræa*, Dresser, ii. p. 219 (partim) pl. 28.

♂ *ad.* (Asia Minor). Sides of the head and neck, throat, upper breast, wings, and scapulars deep black; rest of plumage pure white; tail as in *S. œnanthe*; bill and legs black; iris dark brown. Culmen 0·7, wing 3·4, tail 2·35, tarsus 1·05 inch. The adult female has the crown, nape, back and chin sandy grey, the throat black marked with dull grey; wings dark brown and the breast and abdomen dull white. The young male is like the female but has more white on the upper parts, and the throat and underparts are as in the adult males but rather duller, and the young female resembles the adult but is paler and duller above and lacks the black on the throat.

Hab. Egypt, Arabia, Syria, Palestine, Asia Minor, the Transcaspian district, and probably as far east as Persia; winters in Nubia.

In general habits it does not differ from its allies. It breeds in April, and places its nest, which is flat and untidy, constructed of fine grass straws and lined with a few feathers, in a chink in the rocks; its eggs are pale bluish white, rather round in shape, but when fresh and unblown have a warm pink hue. In size they measure about 0·79 by 0·61.

58. SUBSP. SAXICOLA BARNESI.

Saxicola barnesi, Oates, F. Brit. Ind. Birds, ii. p. 75 (1890).

♂ *ad.* (Persia). Differs from *S. finschi*, only in having the chin and throat alone black, and these separated from the axillaries by a broad white band.

Hab. Baluchistan, Afghanistan, and Persia.

Does not differ in habits from *S. finschi.* Its nest and eggs are as yet unknown but will probably prove to be similar to those of that species.

59. DESERT WHEATEAR.

SAXICOLA DESERTI.

Saxicola deserti, Rüpp. in Temm. Pl. Col. pl. 359, fig. 2 (1825); Dresser, ii. p. 215, pl. 27; Seebohm, Cat. B. Br. Mus. v. p. 383; Oates, F. Brit Ind. Birds, ii. p. 78; Saunders, p. 25; Lilford, iii. p. 28, pl. 14; *S. atrogularis*, Blyth, Journ. As. Soc. Beng. xvi. p. 130 (1847); Gould, B. of Asia, iv. pl. 31.

Naïsch, Arabic.

♂ *ad.* (Algeria) Crown nape, back scapulars and larger wing-coverts sandy isabelline; forehead, superciliary line rump, upper tail-coverts, under wing-coverts, breast and abdomen white; wings black, the feathers margined with isabelline and white; tail black with the extreme base white; sides of head and neck and entire throat glossy black; flanks and breast washed with sandy isabelline; bill and legs black; iris brown. Culmen 0·75, wing 3·5, tail 2·6, tarsus 1·0 inch. The adult female has the upper parts greyer and duller, the rump washed with isabelline; the wings brown and the throat and under parts sandy isabelline. In the winter the male has the upper parts greyer, and the black on the throat is obscured by creamy white margins to the feathers. Young birds have pale centres to the feathers on the upper and under parts, except on the rump and abdomen and the wing and tail-feathers are tipped with buff. This species is always recognizable in having very little white at the base of the tail.

Hab. North Africa from Algeria to Egypt; Arabia, Palestine, Asia Minor, Turkestan, and Western Tibet, wintering in the plains of India and in Africa south to Abyssinia; has occurred three times on Heligoland, once in Scotland and once in England.

In its habits it is lively and by no means shy, and is essentially a desert bird. Its song is simple and short, but pleasant. Its nest, which is placed on the ground under stones, or in a hole, is somewhat large and loosely constructed of grass-bents and plant-stems, and lined with wool, hair, and feathers; the eggs, 3 to 6 in number, are deposited in April or May, and are pale blue green finely spotted with reddish brown and pale violet, and measure about 0·78 by 0·59.

60. SUBSP. SAXICOLA MONTANA.

Saxicola montana, Gould, B. of Asia, iv. pl. 30 (1865); Seebohm, Cat. B. Br. Mus. v. p. 384; Oates, F. Brit. Ind. Birds, ii. p. 78.

♂ *ad.* (E. Turkestan). Differs from *S. deserti*, in having the inner web of the quills pure white quite up to the shaft, and in being a trifle larger in size. Culmen 0·74, wing 4·0, tail 2·75, tarsus 1·1 inch.

Hab. Eastern Turkestan, Tibet; in winter Kashmir, Afghanistan, Baluchistan, and the island of Socotra.

Does not differ from *S. deserti* in general habits and nidification, being in fact merely an eastern form of that species.

61. RED-RUMPED WHEATEAR.

SAXICOLA XANTHOPRYMNA.

Saxicola xanthoprymna, Ehr. Symb. Phys. fol. *d.d.* (1828); Dresser, ii. p. 229, pls. 31, 32, fig. 1; Seebohm, Cat. B. Br. Mus. v. p. 381; *S. erythropygia*, Taylor, Ibis. 1867; *S. mæsta*, Dresser (nec. Licht.), ii. p. 227.

♂ *ad.* (Nubia). Upper parts brownish grey; frontal and superciliary lines white; wings dull brown the feathers lighter margined; lower back, upper and under tail-coverts rufous; tail as in *S. œnanthe*; throat, sides of head, and neck jet black; under parts whitish, the flanks washed with rufous; under wing-coverts black; bill and legs black; iris brown. Culmen 0·6, wing 3·7, tail 2·7, tarsus 0·95 inch. In the female the upper parts are smoky brown, the rufous parts of the plumage orange rufous; cheeks and throat dull white, the bases of the feathers blackish.

This one of the rarest of the Wheatears is only known to inhabit Egypt and Nubia, where it is probably resident, and absolutely nothing is known of its habits or nidification, indeed only very few specimens are known to have been obtained up to the present time.

62. SUBSP. SAXICOLA CUMMINGI.

Saxicola cummingi, Whitaker, Bull. Brit. Orn. Club. No.lxvi. (1899); id. Ibis, (1902), p. 59, pl. iii.

Ad. Differs from *S. xanthoprymna* in having the basal part of the tail-feathers rusty-red like the upper tail-coverts, instead of white. From *S. mœsta* it differs in having the top of the head and nape brownish grey like the back, the rump and upper tail-coverts rusty, and the rufous on the outer tail-feathers extending to within 0·7 of the extremity. Culmen 0·78, wing 3·7, tail 2·45, tarsus 0·95 inch.

Hab. Fao, Persian Gulf.

Nothing is as yet known respecting the habits or nidification of this bird, and indeed, only one specimen, now in the British Museum, is known.

63. ISABELLINE WHEATEAR.

SAXICOLA ISABELLINA.

Saxicola isabellina, Rüpp. Atlas. p. 52, pl. 34, fig. 6, (1826). Dresser, ii. p. 199, pl. 22; Seebohm, Cat. B. Br. Mus. v. p. 399; Oates, F. Brit. Ind. Birds, ii. p. 76; Tacz. F. O. Sib., O. p. 349; Saunders, p. 21; Lilford, iii. p. 24, pl. 12; *S. saltatrix*, Keys and Blas, Wirbelth, Eur. p. 192 (1840).

Conek, Russian.

♂ *ad.* (Egypt). Upper parts greyish isabelline; lower rump and upper tail-coverts white; superciliary line white; lores black; ear-coverts brown; wings brown, the secondaries with pale margins, tail as in *S. œnanthe* but with more black; under parts pale isabelline, chin nearly white, the breast darker; under wing-coverts and axillaries white; bill and legs black; iris brown. Culmen 0·6, wing 3·95, tail 2·45, tarsus 1·18 inch. The female differs merely in having the black on the lores duller. The nestling has the plumage indistinctly barred, and the wings and tail margined and tipped with rufous. In the winter the adult has the wing- and tail-feathers broadly margined with sandy brown. This species somewhat resembles the female of *S. œnanthe*, but can always be distinguished by its white under wing-coverts and axillaries.

Hab. Resident in Egypt, Nubia and Abyssinia; Arabia, Palestine, the Caucasus and South Russia (where it migrates south for the winter); is resident in Persia, and is a summer resident in Turkestan, Afghanistan, Mongolia, Tibet, north China and south-eastern Siberia, wintering in the plains of

India from the Punjab south to Ahmednagar, and east to Chunar and Benares. It has once occurred in Great Britain but has not been otherwise recorded from western Europe.

In general habits this Wheatear does not differ from *S. œnanthe.* It frequents barren ground, pastures, bush-covered localities, and even sometimes fir-woods, and like its congeners feeds on insects of various kinds. Its nest is placed in a hole in the ground, usually in the deserted hole of some rodent, and is bulky, constructed of grass and dried herbs. The eggs from 4 to 6 in number are deposited from February to May, according to latitude, and resemble those of *S. œnanthe*, but are rather larger, measuring 0·82 by 0·65. Its song is powerful and rich in tone, and it has a peculiar note resembling that of a Sandpiper.

64. Mourning Wheatear.

SAXICOLA MŒSTA.

Saxicola mœsta, Licht. Verz. Doubl. p. 33 (1823); Dresser, ii. p. 229, pl. 32, figs. 2 (1874); Seebohm, Cat. B. Br. Mus. v. p. 382; Koenig. J. f. O. 1893, p. 16, Tab. 1; *S. philothamna*, Tristram, Ibis, 1859, p. 58, pl. 9; Dresser, ii. p. 223, pl. 30.

♂ *ad.* (Algeria). Crown dull greyish white; nape white; back black; rump and upper tail-coverts reddish white; wings dull brown, the quills with paler margins; outer tail-feathers bright rufous at the base, otherwise blackish brown, the middle tail-feathers greyish brown; throat, sides of head and neck jet black; breast and abdomen white; under tail-coverts pale rufous; bill and legs black; iris brown. Culmen 0·8, wing 3·8, tail 2·9, tarsus 1·2 inch. The adult female has the upper parts sandy isabelline, the back darker and the under parts including the throat, buffy white. The young bird has the crown and nape greyish brown, the back darker, rump white, tinged with rufous, quills and wing-coverts broadly margined with rusty ochreous; tail narrowly tipped with ochreous; chin, lores, and sides of face black, the lower chin and throat white; rest of under parts white, washed with rufous, and with indistinct cross bars.

Hab. Algeria, Tunis, Egypt, Arabia, and Palestine, where it is resident, but nowhere common.

In its habits it is somewhat peculiar as it frequents exclusively open, scrubby, and not bare districts, and perches on bushes like a Whinchat. It builds its nest in a hole under a bush or root, having two entrances and deposits very early in the season, often early in January, its rather large eggs, which measure 24 by 18 millimetres (0·94 by 0·71 inches) and are delicate bluish white, sprinkled all over with minute reddish spots.

65. RED-TAILED WHEATEAR.

SAXICOLA CHRYSOPYGIA.

Saxicola chrysopygia, (De Filippi), Ann. Zool. Genov. ii. p. 381 (1863) ; Dresser, ix. p. 31, pl. 638, fig. 1 ; Blanf. E. Pers. ii. p. 151, pl. x. fig. 1 ; Seebohm, Cat. B. Br. Mus. v. p. 389 ; *S. kingi*, Hume, Ibis, 1871, p. 29.

Ad. (Persia). Upper parts hair brown, the lores and ear-coverts darker ; rump and upper tail-coverts rufous buff ; wings brown, the secondaries margined and tipped with greyish buff ; tail chestnut red, with a broad subterminal black band ; under parts greyish white, the breast and flanks washed with pale brown, the under tail-coverts with dull chestnut ; bill and legs black ; iris brown. Culmen 0·75, wing 3·7, tail 2·75, tarsus 1·0 inch. Sexes similar.

Hab. Persia, wintering in Baluchistan, Sind, and the plains of N.W. India.

Inhabits rocky desolate localities and does not differ in habits from its allies. Mr. Zarudny found its nest on the 25th May 1892 in Transcaspia, and has sent me one egg which is white with a bluish tinge, very finely dotted at the larger end with pale red, and measures 0·77 by 0·65.

PRATINCOLA, Koch, 1816.

66. WHINCHAT.

PRATINCOLA RUBETRA.

Pratincola rubetra, (Linn.) Syst. Nat. i. p. 332 (1766); Naum. iii. p. 903, Taf. 89, figs. 3, 4 (1823) ; Hewitson, i. p. 108, pl. 30, fig. 2 ; Newton, i. p. 344 ; Dresser, ii. p. 255, pls. 37, 38 ; Sharpe, Cat. B. Br. Mus. iv. p. 179 ; Saunders, p. 27 ; Lilford, iii. p. 20, pl. 10.

Tarier, French ; *Cartaxo*, Portug. ; *Tarabilla grande*, Span, ; *Stiaccino*, Ital. ; *Wiesenschmätzer*, German ; *Paapje*, Dutch ; *Brunstrubet Digesmutte*, Dan.; *Buskskvætte*, Norweg.; *Buskskvätta*, Swed. ; *Pensatasku*, Finn. ; *Tschekkan lugovoi*, Russ.

♂ *ad.* (England). Upper parts blackish brown, the feathers margined with rufescent ochre ; rump more rufescent ; upper tail-coverts yellowish white, with a median blackish spot near the tip ; wings dark brown, with a double white patch ; superciliary stripe, chin, and sides of the throat white ; sides of the face and neck blackish brown, under parts pale rufous, except the abdomen, which is dull white ; central tail-feathers and terminal portion of remaining feathers blackish brown, the basal portion white ; bill and legs black ; iris brown. Culmen 0·58, wing 2·9, tail 1·95, tarsus 0·92 inch. The female is duller in colour, the superciliary stripe is yellowish white, the alar patch smaller, the under parts are yellowish white, the flanks washed with rufous, and the breast slightly spotted. The young resemble the female, but have broader margins to the feathers, and the breast is more spotted.

Hab. Europe generally, ranging as far east as Persia, migrating in winter to North Africa, Senegambia, and the Gold Coast. In N.W. India it is replaced by an allied species, *P. macrorhyncha* Stoliczka.

Frequents open country, commons, heaths and pastures, and is active and restless, flitting from bush to bush. Its call note is sharp and short, and from it the name of 'chat' is derived. Its song is short but agreeable, and is uttered when the bird is perched on a twig, or when fluttering in the air. Its nest which is constructed of fine grass-bents, moss, and roots, and lined with finer bents or hair, is placed amongst bushes or grass carefully concealed, and the eggs from 4 to 6 or even 7 in number are dull bluish green with indistinct reddish-brown spots, and measure 0·7 by 0·55. Its food consists of small coleoptera, insects of various kinds, worms, caterpillars, small mollusks, and even occasionally berries.

67. CANARIAN CHAT.

PRATINCOLA DACOTIÆ.

Pratincola dacotiæ, Meade, Waldo, Ibis, 1889, p. 504, pl. xv.; Dresser, ix. p. 37, pl. 640 (1895).

♂ *ad.* Upper parts blackish brown, the feathers with lighter margins, crown and nape darker; lores and sides of head black; superciliary stripe white; wings and tail brown, with whitish margins; alar patch white; under parts white, with a pale rusty-red patch on the breast; bill and legs black; iris brown. Culmen 0·62, wing 2·5, tail 2·3, tarsus 0·9 inch. The female is paler and duller, especially on the head, and the rufous patch on the breast is nearly obsolete.

Hab. The island of Fuerteventura (Canaries) but it may possibly occur on the opposite unexplored coast of Africa.

Frequents small barrancos on the mountain slopes where there are bushes. It is an early breeder, the young being fledged by the middle of February, and its nest is placed on the ground under stones or a rock. Mr. Meade Waldo was too late for the eggs, but received eggs said to be those of this species which he says resembled intensely bright coloured eggs of *P. rubicola*.

68. HODGSON'S BUSH CHAT.

PRATINCOLA INSIGNIS.

Pratincola insignis, Hodgs. in Gray's Zool. Misc. p. 83 (1844); Sharpe, Cat. B. Br. Mus. iv. p. 183; Pleske, Prjevalsky's Reisen. ii. p. 43, pl. i. figs. 1, 2; Oates, F. Brit. Ind. Birds, ii. p. 64.

♂ *ad.* (Nepal). Crown, sides of the head, hind-neck and back black; upper tail-coverts pure white; wings black, with a large white patch; tail white at the extreme base, otherwise black; chin, throat, and sides of the neck pure white; fore neck and breast orange chestnut; flanks white, washed with orange chestnut; abdomen and under tail-coverts buffy white; bill and legs black; iris brown. Culmen 0·55, wing 3·55, tail 2·5, tarsus 1·1 inch. The female has the upper parts, tail and wings brown, with fulvous margins; sides of the head and neck dull fulvous; ear-coverts rufescent, under parts rusty brown, darker on the breast.

Hab. Nov-Saissan and Alaschan; the plains of Northern India from Cawnpore to the Bhutan Doars; Nepal.

Frequents flat open localities thickly covered with cane-fields. Nothing appears to be known respecting its nidification.

69. STONECHAT.

PRATINCOLA RUBICOLA.

Pratincola rubicola, (Linn.) Syst. Nat. i. p. 332 (1766); Naumann, iii. p. 884, Taf. 90, figs. 3, 4, 5; Hewitson, i. p. 107, pl. xxx. fig. 1; Newton, i. p. 339); Sharpe, Cat. B. Br. Mus. iv. p. 185; Dresser, ii. p. 263, pls. 39, 40; Saunders, p. 29; Lilford, iii. p. 18. pl. 9.

Tarier rubicole, French; *Chasco,* Portug.; *Tarabilla,* Span.; *Saltimpalo,* Ital.; *Schwarzkehliger-Steinschmätzer,* German; *Roodborst-Tapuit,* Dutch; *Sortstrubet-Digesmutte,* Dan.; *Svarthakad-Buskskvätta,* Swed.; *Tschekkan tschernochvostyi,* Russ.

♂ *ad.* (England). Head, throat, nape and back black; tail-coverts white, spotted with blackish brown; wing and tail dark brown, a conspicuous white patch on the former; sides of neck white; under parts light rufous, darker on the breast, lighter on the abdomen; bill and legs black; iris brown. Culmen 0·55, wing 2·55, tail 2·0, tarsus 0·85 inch. The female has the throat merely mottled with black, the upper parts blackish brown, striped with reddish brown; sides of neck rufous white;

alar patch small, and the under parts more yellowish. The young bird is blackish brown above, striated with dull ochreous, upper tail-coverts rufous; wings and tail feathers margined with rufous buff; under parts ochreous indistinctly striped.

Hab. Europe from southern Sweden, where it is a mere straggler, down to the Mediterranean, and east to the valley of the Volga. In winter, Africa as far south as Senegal.

Frequents the same localities as the Whinchat, but as a rule seldom damp places, and its food is the same as that species'. Its call note is a sharp *täk, täk,* and its song though short is agreeable. Its nest which is constructed of dry grass and moss, lined with hair, feathers, and occasionally wool, is placed on the ground, usually under a bush, and well concealed. The eggs 4 to 6 in number are pale greenish blue spotted, chiefly at the larger end, with reddish brown, and are usually deposited in April or May. Two broods are usually raised in the season.

70. INDIAN STONECHAT.

PRATINCOLA MAURA.

Pratincola maura (Pall.) Reis. Russ. Reichs. ii. p. 708, (1773); Sharpe, Cat. B. Br. Mus. iv. p. 188; Oates, F. Brit. Ind. Birds, ii. p. 61; *P. indica*, Blyth, J. A. S. B. xvi. p. 129; Gould B. of Asia. iv. pl. 34.

♂ *ad.* Differs from *P. rubicola* in having the tail-coverts pure white unspotted, the under wing-coverts and axillaries much blacker and in being somewhat smaller in size. Culmen 0·52, wing 2·65, tail 1·97, tarsus 0·8 inch.

Hab. The extreme east of Europe; and Asia as far east as Japan, north to the Yenesei valley, wintering throughout the Indian peninsula south to Mysore.

In general habits and nidification it does not differ from *P. rubicola.*

71. SUBSP. PRATINCOLA PRJEVALSKII.

Pratincola prjevalskii, Pleske, Prjevalsky's Reisen, Vögel, p. 47, Taf. iv. fig. 1, 2, 3, (1889); *P. robusta*, Tristr. Ibis, 1870, p. 497, (partim).

♂. *ad.* Differs from *P. maura* in being larger, having a longer tail, the white patch on the neck smaller, the rusty-red on the breast deeper in colour and more extended, covering almost the entire abdomen. Culmen 0·6, wing 2·82, tail 2·2, tarsus 0·95 inch. The female is more rufous in colouration than *P. maura.*

Hab. Eastern Turkestan, Kansu, along the Himalayas on the one side and the Chotan-tagh to Gilgit on the other, wintering in Northern India.

This is the form hitherto known under the name of *P. robusta*, but as shewn by Mr. Hume (Str. Feath. 1881, p. 320) Dr. Tristram's name will not stand, and it has therefore been renamed by Mr. Pleske. In habits it does not apparently differ from *P. maura* but nothing is known of its breeding habits.

72. WHITE-TAILED STONECHAT.

PRATINCOLA HEMPRICHI.

Pratincola hemprichi, (Ehr.) Symb. Phys. Aves. fol. *a. a.* (1828); Dresser, ii. p. 273; Sharpe, Cat. B. Br. Mus. iv. p. 193.

♂ *ad.* (Abyssinia). Resembles *P. rubicola*, but is paler and has the middle tail-feathers white at the base and the rest white on the basal third. Culmen 0·45, wing, 2·85, tail 2·0, tarsus 0·85 inch. The female resembles *P. rubicola* but is paler and has the base of the tail buffy white.

Hab. South-eastern Europe as far north as the Ural; Turkestan, Persia, (according to De Filippi); and north-east Africa where it is said to be resident as far south as Abyssinia and Bogos-Land.

In general habits it is said not to differ from *P. rubicola*, but its nest and eggs do not appear to be known.

73. PIED STONECHAT.

PRATINCOLA CAPRATA.

Pratincola caprata, (Linn.) Syst. Nat. i. p. 335 (1766); Sharpe, Cat. B. Br. Mus. iv. p. 195; Oates, F. Brit. Ind. Birds, ii. p. 59; Dresser, ix. p. 33, pl. 641.

♂ *ad.* (Kashmir). Lower rump, upper and under tail-coverts, lower abdomen, and an alar patch white; rest of plumage bill and legs deep black; iris brown. Culmen 0·5, wing 2·75, tail 2·1, tarsus 0·82 inch. The female has the upper parts dark greyish brown indistinctly darker striped; rump and upper tail-coverts dark rust-red; under parts wood-brown very indistinctly streaked; abdomen and under tail-coverts rusty-buff. In the autumn the male has the black feathers more or less margined with rusty-brown. The young birds are fulvous brown mottled with dusky; in the young male the white alar patch is present from the earliest period.

Hab. Transcaspia, Afghanistan, Persia, and India as far east as Burma, and in winter ranges as far south as the Philippines and Java.

In its habits it resembles its congeners and affects bush-covered localities, gardens, and orchards. Its nest is frequently shapeless, composed of soft grass, fine rootlets, &c., and lined with the same material or hair, and is placed in a hole in the ground or occasionally on the ground under a tuft of grass or a dense bush; the eggs, 3 to 5 but usually 4 in number are deposited from March to June and are pale bluish green marked with brownish red, and measure about 0·67 by 0·55. Its song is clear and good, and is said to be superior to that of *P. maura*.

74. MOUSSIER'S STONECHAT.

PRATINCOLA MOUSSIERI.

Pratincola moussieri (Olphe. Galliard.), Ann. Soc. d'Agricult. &c., Lyon, iv. pl. xi. (1852); (Dresser), ii. p. 301, pl. 45; (Sharpe), Cat. B. Br. Mus. vii. p. 20; Koenig. J. f. O. 1895 p. 304.

♂ *ad* (Algeria). Crown, sides of head, back and wings black; a white line across the forehead and over the eye to the nape; alar patch white; rump, upper tail-coverts and lateral tail-feathers orange chestnut; central rectrices brown; under parts pale chestnut, bill and legs black; iris brown. Culmen 0·52, wing 2·6, tail 2·0, tarsus 1·0 inch. The female has the upper parts greyish brown, the under parts dull greyish orange, the tail duller in colour.

Hab. Morocco, Algeria, and Tunis, but it is doubtful if, as has been stated, it has occurred in southern Spain.

In its general habits it resembles the common Stonechat and its flight is similar but rather slower and like that bird it affects bush-covered localities. Its nest, which is constructed of grass-bents and lined with hair and feathers, is placed on the ground under a bush, and the eggs, 4 to 5 in number, which are deposited in April or May, are delicate bluish or greenish white, occasionally pure white, and measure 0·7 by 0·55.

RUTICILLA, C. L. Brehm, 1828.

75. REDSTART.

RUTICILLA PHŒNICURUS.

Ruticilla phœnicurus (Linn.), Syst. Nat. i. p. 335 (1766); (Naumann), iii. p. 510, Taf. 79, figs. 1, 2; Gould, B. of Gt. Brit. ii. pl. 51; Newton, i. p. 329; Dresser, ii. p. 227, pl. 41; Seebohm, Cat. B. Br. Mus. v. p. 336; Saunders, p. 31; Lilford, iii. p. 14, pl. 7; *Phœnicura ruticilla*, Gould, B. of E. ii. pl. 95; Hewitson, i. p. 104, pl. xxix. fig. 2.

Rouge-queue, French; *Rabiruiva,* Portug.; *Culirojo,* Span.; *Codirosso, Cudarusso,* Ital.; *Rothschwanz,* German; *Roodstaartje,* Dutch; *Blodstjert,* Dan.; *Rödstjärt,* Norweg. and Swed.; *Leppälintu,* Finn.; *Sarnitchka,* Russ.

♂ *ad.* (England). Upper parts generally slate-grey; tail and upper tail-coverts chestnut red, the middle rectrices brownish, wings brownish, the quills with paler margins; forehead white, frontal line, lores, cheeks, ear-coverts and throat deep black, under parts white, the breast flanks under wing-coverts and axillaries rich or orange red or chestnut; bill and legs black; iris brown. Culmen 0·6, wing 3·1, tail 2·5, tarsus 0·9 inch. Female; upper parts brownish grey; rump and tail duller than in the male; no white frontal patch; chin and throat greyish white tinged with rufous; under parts paler and duller than in the male. The nestling is dull ochreous barred with blackish brown; tail duller than in the adult and slightly barred; under parts sandy yellow marked with blackish brown. In the winter the male has the upper parts obscured with brown, the black and white on the head and neck with brown margins and the orange red on the under parts with whitish margins to the feathers, but the female differs but little in winter dress.

Hab. Europe generally, north to the Arctic circle, south to the Mediterranean; Asia east to the Yenesei and the Lena; winters in southern Persia and Central Africa.

Frequents groves and gardens, and is active and sprightly in its general habits, but somewhat shy and suspicious; is continually on the move, and keeps its tail in almost continual motion. Its call note is a clear whistle, sometimes followed by one or two short, sharp notes, and its song, which is uttered when the bird is perched on a twig or occasionally when on the wing, is sweet, rather melancholy, but feeble and consists of only three strophes. It feeds on insects of various kinds, which it either collects from the foliage of trees or from the ground, and catches flies on the wing with great facility.

It breeds throughout its summer range in April or May, its nest being usually placed in a hollow tree or a hole in a wall, and somewhat loosely constructed of roots, dry grass-bents, and moss, and lined with hair or feathers.

The eggs from 5 to 8 in number are clear greenish-blue, usually unspotted, but occasionally with a few faint reddish dots, and measure from 0·70 by 0·57 to 0·78 by 0·58 inch.

76. EHRENBERG'S REDSTART.

RUTICILLA MESOLEUCA.

Ruticilla mesoleuca, Ehr. Symb. Phys. Aves. fol. *e e* (1829) ; Dresser, ii. p. 285, pl. 42 ; Seebohm, Cat. B. Br. Mus. v. p. 338.

♂ *ad.* (Taurus). Differs from the Common Redstart in having a conspicuous white alar patch ; the upper parts are darker, and the under parts of a deeper orange red. Culmen 0·5, wing 3·1, tail 2·45, tarsus 0·82 inch. The female resembles that of *R. phœnicurus*, but is darker and greyer in tinge of colour.

Hab. Asia Minor, the Caucasus, and North Africa, wintering in Arabia, Abyssinia, and Senegal; has on several occasions been obtained in Europe proper.

In general habits it assimilates more closely with *R. titys* than with *R. phœnicurus*, but is much shyer than either of these. Its nest which it places in a hollow tree is loosely constructed of strips of the inner bark of the juniper and hair or wool, and lined with hair and feathers; the eggs from 3 to 6 in number closely resemble those of *R. phœnicurus.*

77. INDIAN REDSTART.

RUTICILLA RUFIVENTRIS.

Ruticilla rufiventris, Vieill. Nouv. Dict. xxi. p. 431 (1818) ; Dresser, ii. p. 289, pl. 43 ; Seebohm, Cat. B. Br. Mus. v. p. 342 ; Oates. F. Brit. Ind. Birds, ii. p. 95, *R. indica*, Blyth, Cat. B. Mus. As. Soc. p. 168 (1849), *R. phœnicuroides* and *nipalensis* ; Moore, P. Z. S. 1854. pp. 25, 26, pl. lvii.

Thir-thira, *Thirtir-kampa*, Hindu ; *Phir-ira*, *Lal-girdi*, Beng. ; *Nuni-budi-gadu*, Tel.

♂ *ad.* (Lebanon). Differs from *R. phœnicurus* in having the upper parts blackish grey, the black line on the forehead broader, the white patch scarcely visible and frequently wanting, the black on the throat extending to the breast, the under parts chestnut red, paler on the centre of the abdomen. Culmen 0·58, wing 3·15, tail 2·7, tarsus 0·95 inch. The female is much darker than that of *R. phœnicurus*, and the under tail-coverts more rufous. In the winter both sexes have the feathers tipped with brown, as in *R phœnicurus.*

Hab. Turkestan, Persia, Afghanistan, the higher parts of the Himalayas and Mongolia, ranging east to China, and winters in India from the Himalayas to Bangalore and the Nilgiris, and from Sind to Assam and Manipur.

In habits it resembles *R. phœnicurus* except that it affects rocky and mountainous localities. But little is known of its breeding habits except that it nests in hollow trees or in rocks, and its eggs resemble those of *R. phœnicurus*, but are rather larger and paler. The nest is loosely constructed of dried grasses and lined with wool, hair, and feathers.

78. SUBSP. RUTICILLA SEMIRUFA.

Ruticilla semirufa (Ehr.), Symb. Phys. Aves. fol. *b b* (1829) ; Seebohm Cat. B. Br. Mus. v. p. 344.

The present sub-species is barely separable from *R. rufiventris*, of which it is merely a western form differing in being a trifle smaller in size and in having the under wing-coverts marked with black. Culmen in ♂ 0·52 to 0·6, wing 2·9 to 3·1, tail 1·8 to 2·2, tarsus 0·9 to 0·91 inch.

Hab. Palestine and Syria, and has been obtained in Egypt

It nests in the Lebanon and the nest is placed in a cleft in the rocks. The eggs resemble those of *R phœnicurus*, but are of a more delicate and paler blue.

79. HODGSON'S REDSTART.

RUTICILLA HODGSONI.

Ruticilla hodgsoni, Moore, P. Z. S. 1854, p. 26, pl. lviii. ; Seebohm, Cat. B. Br. Mus. v. p. 344 ; Oates, F. B. Ind. Birds, ii. p. 95.

Thar-capni, Nepal.

♂ *ad.* (India). Differs from *R. phœnicurus* in being larger, in having the upper parts of a deeper slate-grey, shading to white on the forehead, and on the wing there is a small white speculum ; on the under parts the black extends further down, and the breast and abdomen are darker chestnut-red. Culmen 0·62, wing 3·4, tail 2·7, tarsus 1·0 inch. The female resembles that of *R. rufiventris*, but is larger. In the winter the male has grey fringes on the feathers of the throat and breast.

Hab. Western China and Central Asia; winters in Nepal, Sikkim, Bhutan, Assam, the Naga Hills, and Manipur.

I find nothing on record respecting its general habits, and its nest and eggs are unknown.

80. DAURIAN REDSTART.

RUTICILLA AURORÈA.

Ruticilla aurorea (Gmel.), Syst. Nat. i. p. 976 (1788); David and Oust. Ois. Chine, p. 170, pl. xxvi.; Temm. and Schlegel, Fauna Jap. Aves. p. 56, pl. xxi. D; Tacz., Journ. f. Orn. 1872, p. 362, 1873, Taf. i. fig. 11 (egg); id. F. O. Sib. O. p. 326; Seebohm, Cat. B. Br. Mus. v. p. 345; Oates, F. Brit. Ind. Birds, ii. p. 93.

♂ *ad.* (Dauria). Crown, nape, and upper back pale grey, with darker margins; throat, sides of head, upper breast, dorsal region, and wings black, the last with a white speculum; central tail-feathers blackish brown; lower back, rump, tail, and under parts chestnut; bill and legs black; iris brown. Culmen 0·6, wing, 2·9, tail 2·5, tarsus 0·9 inch. Female; Rump and tail as in the male; upper parts brown, wings edged with fulvous and with a white speculum; under parts greyish brown, the throat paler; feathers round the eye greyish white. In the winter the feathers are bordered with slaty brown, and the crown and nape in the male are dull slaty grey; the black feathers on the throat have whitish margins. The female is also rather duller in plumage than in the summer.

Hab. Eastern and south-eastern Siberia, Mongolia, Northern China, and Japan in elevated districts; wintering in the plains of Japan, South China, Formosa, and Hainan, Assam, Bhutan, the Khasi Hills, Cachar, Sylhet, the Naga Hills, Manipur, and Thayetmyo, and occurring as far south as the Malay Peninsula, Java, and Timor.

Frequents bush-covered localities, especially near water, fields and gardens even those in the towns, and in general habits resembles *R. phœnicurus*, and is by no means shy. Its call note is *kekekeke* quickly uttered and its song is strong and fairly good. It breeds in May; its nest, which is constructed of moss, dried grass, and bark, and lined with hair and feathers, is placed in a hollow tree, the cleft of a rock, or amongst stones and from 5 to 7 eggs are deposited. These belong to two different forms, being either white finely spotted with red or brownish red in colouration resembling those of the Robin, or else pale blue like those of *Saxicola œnanthe*, or deep greenish blue like those of *Ruticilla phœnicurus*, finely spotted with rusty red, and in size are about similar to those of *R. phœnicurus.*

81. GÜLDENSTADT'S REDSTART.

RUTICILLA ERYTHROGASTRA.

Ruticilla erythrogastra (Güld.), Nov. Com. Petrop. xix. p. 469, pls. 16, 17 (1775) ; Gould, B. of Asia, i. pl. 49 ; Dresser, ii. p. 305, pl. 46 ; Seebohm, Cat. B. Br. Mus. v. p. 347 ; Tacz. F. O. Sib. O. p. 329 ; Oates, F. Brit. Ind. Birds, ii. p. 97.

♂ *ad.* (Caucasus). Crown and nape white tinged with silvery grey ; frontal band, sides of head, throat, neck, upper breast, back, and wings black, the last with a large white alar patch ; rump, tail, lower breast and under parts deep chestnut, the middle rectrices brownish ; legs and beak black ; iris brown. Culmen 0·55, wing 4·1, tail 3·15, tarsus 1·0 inch. The female is brownish ash, darker on the upper parts, and paler on the abdomen ; tail and rump paler than in the male ; no white alar patch. In the winter-dress the white feathers on the crown and nape of the male have grey margins, and the plumage in both sexes is duller. The young resemble the female but are mottled, the feathers having obscure pale centres, and the young male has a whitish alar patch.

Hab. The mountain ranges of the Caucasus, Turkestan, the Himalayas, from Kashmir and Gilgit to Sikkim, the Onon, Dauria, Mongolia, Tibet, and Northern China, descending to lower altitudes and the plains in winter.

In its habits it differs somewhat from the other Redstarts and affects lakes, mountain streams, and rocky hillsides. Prjevalsky found it breeding in the Nan-Schan mountains in Mongolia, at an altitude of 12,000 feet, but gives no description of its nest and eggs. Eastern birds have as a rule the tail paler rufous and the crown whiter, and have therefore been separated under the name *R. grandis,* (Gould, P.Z.S. 1849, p. 112.)

82. EVERSMANN'S REDSTART.

RUTICILLA ERYTHRONOTA.

Ruticilla erythronota (Eversm.), Add. Pall. Zoogr. Ross. As. fasc. ii. p. 11 (1841) ; Dresser, ix. p. 43, pl. 643 ; Seebohm, Cat. B. Br. Mus. v. p. 348 ; Tacz. F. O. Sib. O. p. 331 ; Oates, F. Brit. Ind. Birds, ii. p. 94 ; *R. rufigularis*, Moore, P.Z.S. 1854, p. 27, pl. lix.

♂ *ad.* (Afghanistan). Crown and nape slate-grey ; frontal line lores, sides of neck, head, and ear-coverts black ; wings blackish externally margined with grey, and with a broad band and a small patch white ; back, rump, tail, chin, throat, and under parts chestnut red, the middle tail-feathers blackish brown; middle of abdomen whitish. Culmen 0·55, wing 3·5, tail 2·95, tarsus 0·95 inch. The female has the upper parts greyish brown, the upper tail-coverts and tail as in the male; less white on the wings; under parts greyish brown, the middle of abdomen and under tail-coverts whitish. In winter the male has the plumage obscured by buffy white or buffy brown margins to the feathers.

Hab. Asia from the Ural and Transcaspia to Lake Baikal and South-west Mongolia, south to Bushire; winters in Turkestan, Afghanistan, and Kashmir west to Asia Minor.

Frequents wooded and bush-covered localities, and differs but little from its allies in general habits. Breeds in Eastern Siberia, but I do not find any published description of its nest or eggs.

83. PRJEVALSKY'S REDSTART.

RUTICILLA ALASCHANICA.

Ruticilla alaschanica, Prjv. Mongol i Strana Tangut, ii. p. 40, Taf. ix. fig. 2 (1876); id. in Rowley's Orn. Misc. ii. p. 175, pl. liv. fig. 2 (1877).

♂ *ad.* (Kansu). Differs from *R. erythronota* in being larger and having as a rule a longer tail; the black on the sides of the head and neck is replaced by dark slate grey and the crown and nape are dark slate grey, darker than in that species. Culmen 0·7, wing 3·55, tail 3·45, tarsus 0·9 inch.

♀ *ad.* Does not differ from *R. erythronota* except in size.

Hab. The Alaschan and southern Koko-nor mountains, and those in the province of Kan-su.

It breeds in the Sjan-si-bei mountains on the upper Chuanche, but its nest and eggs are, so far as I can ascertain, unknown.

84. BLACK REDSTART.

RUTICILLA TITYS.

Ruticilla titys (Scop.), Ann. 1 Hist. Nat. p. 157, No. 233 (1769); (Hewitson), i. p. 105, pl. xxix. fig. 3; Naumann, iii, p. 525, Taf. 79, figs. 3, 4; Gould, B. of E. ii. pl. 96; id. B. of Gt. Brit. ii. pl. 52; Newton, i. p. 333; Dresser, ii. p. 293, pl. 29; Saunders, p. 33; Lilford, iii. p. 16, pl. 8; *R. cairii*, Gerbe. Dict. Univ. d'Hist. Nat. xi. p. 259 (1848).

Rouge-queue des Murailles, French; *Rabiruiva*, Portug.; *Culirojo*, *Tintorero*, Span.; *Coderosso-spazzacamino*, Ital.; *Haus-*

röthling, German; *Zwaarte Roodstart,* Dutch; *Sort-Rödstjert,* Dan.; *Svart-Rödstjert,* Swed.

♂ *ad.* (Germany). Crown, nape, and back dark slate-grey; tail and tail-coverts chestnut-red, the central tail feathers dark brown, wings blackish grey; the secondaries with broad white margins; axillaries grey; frontal line, sides of the head and neck, throat, and breast deep black; abdomen slate grey, nearly white in the centre; beak and legs black; iris brown. Culmen 0·6, wing, 3·55, tail 2·8, tarsus 0·95 inch. The female, has the upper parts sooty brownish grey; under parts pale sooty brown, the centre of the abdomen whitish; wings browner than in the male; tail and tail-coverts similar to male. The young bird resembles the female, and the nestling has the plumage indistinctly barred. In the winter the male has the black feathers more or less tipped with grey, but the female does not differ from its summer dress.

Hab. Central and southern Europe, yearly visiting the British Islands mostly in autumn and winter; straying to southern Scandinavia, and Iceland (once); east to the Ural and Asia Minor, south to North Africa and, in winter, as far south as Southern Nubia.

In general habits it does not differ much from *R. phœnicurus,* but frequents houses, and is even found in towns and cities, and it affects rocky localities and ravines in preference to groves. It is tame and familiar in its habits, sometimes almost as much so as the Redbreast; its call note and song resemble those of the Common Redstart. It breeds in central and southern Europe as far north as Holland, and in North Africa, and commences nidification early in May. The nest, which is placed in sheds, holes in walls, under the eaves of an outhouse, or in clefts of the rocks, is constructed of grass, moss, and rootlets, and lined with hair, wool, or feathers, and the eggs usually 4 or 5 in number are pure white, measuring about 0·75 by 0·58, but occasionally, though very rarely, eggs are found which are faintly spotted with brown. *R. cairii* is merely the young plumage of the present species.

85. GOULD'S REDSTART.

RUTICILLA OCHRURA.

Ruticilla ochrura (Gmel.), Reis. Russl. iii. p. 101. pl. 19, fig. 3 (1774); Dresser, ix. p. 39, pl. 642; *R. erythroprocta,* Gould, P.Z.S. 1855, p. 78.

Gorichvostka Gornaya, Russ.

♂ *ad.* (Euphrates Valley). Differs from *R. titys* in having the back, wing-coverts, and axillaries black instead of slate-grey, the black extends further down the breast, and the abdomen is chestnut-red instead of grey. Culmen 0·5, wing 3·25, tail 2·5, tarsus 0·85 inch. The female resembles the female of *R. titys* but has the lower abdomen tinged with chestnut-red.

Hab. Asia Minor and the Caucasus, passing south in the winter.

It resembles *R. titys* in its habits except that it does not visit inhabited places so much as that species but frequents rocky mountainous localities. It nests in the mountains, in clefts of rocks or in old towers, its nest being of fine roots and grass-bents, and lined with finer roots and hair, and deposits 4 or 5 eggs, which are white with a very faint blue tinge, but according to M. Lorenz the eggs are deep blue.

86. WHITE-THROATED REDSTART.

RUTICILLA SCHISTICEPS.

Ruticilla schisticeps (Hodgs.), MS. drawings of B. of Nepal *Passeres*, pl. lxxix., No. 813 ; id. in Gray's, 3 vol. Misc. p. 83 (1844), pl. lxi. ; Prjev. Mongol. i Strana Tangut. ii., tab. xx. fig. 10 (egg) ; Pleske, Prjevalsky's Reisen Vögel, ii., Vögel Taf. v. (egg) ; Seebohm, Cat. B. Br. Mus. v. p. 351 ; Oates, F. Brit. Ind. Birds, ii. p. 92 ; *R. nigrogularis* Moore, P.Z.S. 1854, p. 29.

♂ *ad.* (Sikhim). Crown and nape cobalt, rather duller on the nape ; a narrow frontal line, sides of the head and neck, throat, back, and scapulars black ; the longer scapulars broadly tipped with chestnut ; tail black ; all but the middle feathers with concealed chestnut bases ; wings black ; the larger wing-coverts and outer margins of the inner secondaries white ; a well defined white patch on the throat ; rump, tail-coverts, and under parts below the throat rich dark chestnut ; the centre of the abdomen whitish ; bill and legs black ; iris brown. Culmen 0·52, wings 3·5, tail 2·9, tarsus 0·9 inch. Female ; crown nape, back, and upper rump rich brown ; lower rump, tail-coverts, and basal half of tail, except the middle feathers, chestnut-red ; rest of tail bark brown ; wings dark brown, with less white than in the male ; underparts warm brownish ash-grey, whitish on the centre of the abdomen ; a large white patch on the throat. In the autumn the black portions of the plumage and the crown in the male are margined with fulvous.

Hab. The mountains of Nepal and Sikhim, Tibet, Mongolia, and North West China.

It frequents bush-covered localities in the mountains, and forests, both pine and deciduous. It breeds in the province of

Kansu and in the mountains above the tributaries of the upper Chuanche river and places its nest, which is constructed of moss and lined with hair and feathers, in a cleft in the rocks, and in May deposits 4 eggs which are pale pink with a polished shell surface and are faintly dotted with brown. In size they measure 19·5 to 20 by 14·5 to 15·5 millimetres.

87. Blue-Headed Redstart.

RUTICILLA CÆRULOCEPHALA.

Ruticilla cærulocephala (Vigors), F.Z.S. 1830, p. 35 ; (Gould) Cent. B. Himal. M. pl. xxv., fig. 2 ; Hume and Henderson, Lahore to Yark., p. 211, pl. xiv. ; Seebohm, Cat. B. Br. Mus. v., p. 353 ; (Oates) F. Brit. Ind. Birds, ii., p. 108.

♂ *ad.* (Himalayas). Crown and nape pale blue ; frontal line, chin, throat, sides of head, breast, back, scapulars, lower rump, upper tail-coverts, and tail deep black ; wings black, the median and inner greater coverts and broad margins of the inner secondaries white ; underparts below the breast white ; under wing-coverts and axillaries black tipped, with white ; bill and legs black ; iris brown. Culmen 0·52, wing 3·2, tail 2·6, tarsus 0·82 inch. The female has the upper parts rich brown ; rump and upper tail-coverts rufous ; tail brown, narrowly margined with ferruginous ; wings brown, the coverts and inner secondaries margined and tipped with fulvous white ; under parts ashy brown with a fulvous tinge, the centre of the abdomen nearly white ; a pale ring round the eye. In the winter the crown, nape, and the black portions of the plumage have the feathers margined with brown. The young male has in all plumages the white margins on the wing, and the nestling is mottled all over.

Hab. The Himalayas from Afghanistan and Gilgit to Bhutan, and Turkestan. In the summer it inhabits the mountains from 10,000 feet upwards, descending to lower altitudes in the winter.

In habits it does not appear to differ from its allies and frequents wooded localities in the mountains. It breeds in May and June, its nest, which, according to Major Wardlaw Ramsay, is constructed of small twigs and grass, lined with hair, is placed in a crevice or hole in the face of a cliff, and its eggs, 5 in number, are dull cream coloured with a darker zone of the same colour round the thicker end, and measure about 0·84 by 0·62.

Several authors have separated this species from the true Redstarts, placing it in the genus *Adelura* Bp. on account of the absence of red in the tail.

88. Blue-Fronted Redstart.

RUTICILLA FRONTALIS.

Ruticilla frontalis (Vigors), F.Z.S., 1831, p. 172; (Gould), Cent. B. Himal. M. pl. xxvi. fig. 1 (1832); Prjev. Mongol. i Strana Tangut, ii. pl. xx. fig. 9 (egg); Seebohm. Cat. B. Br. Mus. v. p. 349; Oates, F. Brit. Ind. Birds, ii. p. 91.

Tak-tirriri-pho. Lepch.

♂ *ad.* (Sikhim). Crown, nape, and upper parts generally dark blue, the forehead and supercilium bright blue; throat and upper breast dark blue; tail chestnut-red, the central feathers and terminal portion of all the rest black; upper and under tail-coverts and under parts chestnut; under wing-coverts and axillaries chestnut with blue bases. Culmen 0·57, wing 3·55, tail 3·05, tarsus 0·92 inch. The female has the tail and upper tail-coverts as in the male, but rather duller, the upper parts generally dark fulvous brown, the throat and breast fulvous brown, and the rest of the under parts orange brown. In the winter the male has the blue feathers margined with brown.

Hab. The Himalayas from Gilgit and Kashmir to Assam; the Khási Hills; North Cachar; Manipur; Tibet; Kan-su and Western China.

In summer it is found at an altitude of 14,000 or even higher, but in winter descends as low as 5,000 feet. But little is known of its habits, but it has been found breeding in Kan-su. The nest which was constructed of moss, bass, and the feathers of *Crossoptilum auritum* was placed on the ground under a rotten stump, and contained 4 eggs of a dirty white colour, covered with indistinct reddish-brown spots chiefly at the larger end which measured 0″·73 by 0″·58.

RHYACORNIS, Blanf. 1872.

89. Plumbeous Redstart.

RHYACORNIS FULIGINOSUS.

Rhyacornis fuliginosus (Vigors), P.Z.S., 1831, p. 35; (Hume and Henderson), Lah. to Yark., p. 212 pl. xv.; (Sharpe) Cat. B. Br. Mus. iv. p. 253; Oates, F. Brit. Ind. Birds, ii. p. 98.

Suradum parbo-pho, Lepch; *Chubbia-nakki*, Bhut.

♂ *ad.* (Himalayas). Entire plumage dull plumbeous blue; the lores blackish blue; tail, tail-coverts, and vent bright chestnut; quills black with bluish margins; bill black; legs dark brown; iris brown. Culmen 0·6, wing 2·9, tail 2·1, tarsus 0·9 inch. The female has the upper parts dull bluish brown; upper and under tail-coverts and base of tail white, the terminal portion of the last black; under parts ashy brown barred with white. The nestling resembles the female, but has the upper parts spotted and streaked with dull white or pale fulvous, and the under parts mottled and barred with brown.

Hab. The Himalayas from Kashmir to Assam, the Khasi Hills, Cachar, Manipur, Arrakan, China, and Mongolia, breeding at altitudes up to 13,000 feet and wintering in the lowlands.

Inhabits mountain streams being always found near water, especially rapids or cascades, and has a habit of expanding its tail frequently. It breeds throughout its range in May and June, and places its nest on a shelf of rock or in the hollow of a bank by the side of a stream, constructing it of moss, fine roots and fibres, lined with hair and wool. The eggs 4 or 5 in number are greenish white thickly mottled with yellowish or reddish brown and measure about 0·76 by 0·60.

HODGSONIUS, Bonap. 1850.

90. HODGSON'S SHORTWING.

HODGSONIUS PHŒNICUROIDES.

Hodgsonius phœnicuroides (Hodgs.), in Gray's Zool. Misc. p. 83 (1844); Hume and Henderson Lah. to Yark., i. p. 187 pl. vi.; Sharpe Cat. B. Br. Mus. vii. p. 81; Oates, F. Brit. Ind. Birds, i. p. 190.

♂ *ad.* (Himalayas). General plumage slaty blue; quills blackish washed with slaty blue on the outer webs, the tips of the wing white; tail chestnut at the base and blackish on the terminal portion; abdomen white; under tail-coverts slaty blue tipped with white; bill dusky, reddish at the base; gape yellow; legs pale reddish brown; iris dark brown. Culmen 0·7, wing 2·8, tail 3·15, tarsus 1·15 inch. The female has the upper parts oliveaceous brown, the margins of the quills rufous; tail rufous brown, deeper on the basal portion; under parts ochreous grey, the abdomen dull white, the under tail-coverts dark ochreous, with the centres and tips pale ochreous. The young bird resembles the female.

Hab. The Himalayas from Gulmurg and Sonamurg in Kashmir to Bhutan, eastward to Kansu and Moupin in China.

Inhabits the mountains at considerable altitudes, wintering at the foot of the hills and frequents thick underwood in the mountain gorges and at the edge of the forest. The alarm note of the male resembles the syllables *tryck, tryck.* The male resembles the Robin in its habits, hops about with its tail over its back, and is very pugnacious to other birds trespassing in its vicinity. The nest is placed in a low bush usually about a foot or eighteen inches from the ground, and is a thick deep cup made of rough grass lined with a few dead leaves, some fine grass, grass-roots and a few feathers. The eggs 3 in number are deposited in June and are uniform deep dark blue in colour, and measure about 0·89 by 0·63, but are somewhat variable in size.

CHIMARRHORNIS, Hodgs., 1844.

91. White-capped Redstart.

CHIMARRHORNIS LEUCOCEPHALUS.

Chimarrhornis leucocephalus (Vigors), P.Z.S. 1830, p. 35; (Gould), Cent. B. Himal. M. pl. xxvi., fig. 1; Hume and Henders. Lah. to Yark., p. 214; Sharpe, Cat. B. Br. Mus. vii., p. 47; Oates, F. Brit. Ind. Birds, ii., p. 89.

Gir-chaondia, Hind.; *Mati-tap-pho,* Lepch; *Chubia-mati,* Bhut.

♂ *ad.* (Himalayas). Crown and nape white; rest of the head, neck, breast, back, and wings black; rump, tail-coverts, and under parts below the breast chestnut-red; tail chestnut, broadly tipped with black. Culmen 0·65, wing 3·9, tail 3·2, tarsus 1·2 inch. The adult female does not differ from the male; the young are blackish brown, the feathers of the back, rump, and under parts margined with rufous; tail and wings as in the adult; crown and nape white with blackish edges.

Hab. The Himalayas from Afghanistan and Gilgit to Assam; the Khasi Hills; Manipur; the second defile Irrawaddy river; Arrakan, ranging east to Kansu, the upper Chuanche, and the Ichang gorge on the Upper Yangtse river.

It frequents the mountain streams where there are trees and bushes and in its general habits has much in common with the Water-Ousel. It flies from stone to stone close to the surface of the water, like the Water-Ousel and follows the bends of the stream, and both in flight and when seated both sexes utter a rather loud deep piping note. It seldom perches on a tree but is generally to be seen on the banks of, or on stones in, a stream, and has a habit of constantly moving its tail up and down and expanding the feathers. It feeds entirely on insects which it picks up at the edge of the water. It breeds in May; constructing a cup-shaped nest of green moss-roots and fibres, profusely lined with hair, which it places in the hollow of a bank on the side of a stream, and deposits 3 greenish white eggs covered with rufous spots.

GRANDALA, Hodgs., 1843.

92. HODGSON'S BLUE CHAT.

GRANDALA CÆLICOLOR.

Grandala cœlicolor Hodgs. J. As. Soc. Beng. xii., p. 447 (1843); Gould B. of Asia, iv., pl. 36; Seebohm, Cat. B. Br. Mus. v., p. 328; Oates, F. Brit. Ind. Birds, ii. p. 111.

♂ *ad.* (Himalayas). Wings and tail black, the rest of the plumage deep rich blue, most brilliant on the rump and upper tail-coverts; bill and legs deep black; iris brown. Culmen 0·85, wing 5·75, tail 3·6, tarsus 1·18 inch. The female has the plumage brown tinged with blue, especially on the rump and upper tail-coverts, the head, neck, and under parts streaked with fulvous white; under tail-coverts broadly margined with white; one small and one larger patch of white on the wing. The young bird is said to resemble the female, but the fulvous white streaks are broader, and are extended over the flanks, which are unstreaked in the adult females.

Hab. The higher portions of the Himalayas, from Garhwál to Sikkim, from 12,000 to 17,000 feet, eastwards to Tibet and Western China.

Being so little disturbed it is not shy, and frequents barren rocky localities, feeding on insects. On the ground it resembles a Wheatear, but its flight is said to be like that of a Starling or a Bee-eater. In the winter it is found in flocks. It is said to breed in the highest portions of the mountains, but its nest and eggs are as yet unknown.

CYANECULA, Brehm, 1828.

93. WHITE-SPOTTED BLUE-THROAT.

CYANECULA WOLFI.

Cyanecula wolfi, C. L. Brehm, Beitr. zur Vogelk, ii. p. 173 (1822); Dresser, ii. p. 311, pls. 47, 48, and 50, fig. 1; Oates, F. Brit. Ind. Birds, ii. p. 100; *C. suecica* (nec. Linn.) Naumann, ii. p. 414, Taf. 75, figs. 3, 4; *Sylvia cyanecula*, Wolf. Taschenb. i. p. 240 (1810); (Seebohm), Cat. B. Br. Mus. v. p. 311; *C. leucocyana*, C. L. Brehm, Vög. Deutschl., p. 353 (1831) Gould, B. of Gt. Brit. ii. pl. 50.

Fauvette Gorge bleue, French; *Pisco de peito azul,* Portug.; *Garganti azul,* Span.; *Pett-azurro a macchia bianca,* Ital.; *Blaauw borstje,* Dutch.

♂ *ad.* (Spain). Upper parts clove-brown, lores and ear-coverts dark brown; eye-stripe buffy white; wings, middle tail feathers, and terminal portion of other tail feathers dark brown, and the basal portion chestnut; cheeks, chin, throat, and upper breast rich ultramarine blue, with a large central white patch occasionally altogether blue, bordered below with black and then with bay; rest of under parts, axillaries, and under wing-coverts buffy white; bill, legs, and iris brown. Culmen 0·65, wing 3·1, tail 2·35, tarsus 1·1 inch. The female is paler, and has the under parts buffy white with a dark brown band across the breast, but old females have blue markings on the throat and breast. Young birds resemble the female, but the nestling is striped like a young robin, and has the base of all but the central tail feathers bay. In the autumn the feathers have grey tips.

Hab. Central Europe west to Holland; southern and south-western Europe on passage, wintering in Asia Minor, Palestine, and North Africa; Asia as far east as India.

In habits and song it does not differ from *C. suecica,* and its nest and eggs are like those of that species but are sometimes darker or paler. *C. abbotti* Richmond, (Proc. U.S. Nat. Mus. xviii. p. 484–1896), from Ladak is, I should say, referable to the present species, but I have not had an opportunity of examining a specimen.

94. RED-SPOTTED BLUE-THROAT.

CYANECULA SUECICA.

Cyanecula suecica (Linn.), Syst. Nat. i. p. 336 (1766); (Hewitson), i. p. 102, pl. xxix. fig. 1; (Naumann), ii. p. 417, Taf. 75; Gould, B. of Gt. Brit. ii. pl. 49; Newton, i. p. 321; Dresser, ii. p. 317, pl. 49 and 50, fig. 2; Oates, F. Brit. Ind. Birds, ii. p. 99; Tacz. F. O. Sib. O. p. 332; Saunders, p. 35; Lilford, iii. p. 10, pl. 5; *C. cœrulecula* (Pall.), Zoogr. Ross. As. i. p. 480 (1811); (Seebohm), Cat. B. Br. Mus. v. p. 308.

Blaukehlchen, German, *Blaakjaelk,* Norweg. and Dan.; *Blåhakesångaren,* Swed.; *Kiellavälggu,* Lapp.; *Sinirintakerttu, Patakielinen,* Finn.; *Varakushka,*—Russ.; *Huseni-pidda,* Hind.; *Gunpigera, Gurpedra,* Beng.; *Dumbak,* Sind.

♂ *ad.* (Norway). Differs from *C. wolfi* only in having the central spot in the blue bright bay instead of white. The female and young resemble those of that species, there being no character by which they are distinguishable.

Hab. Northern Europe and Asia, north to Kamchatka, south to Mongolia and Northern Kashmir, wintering in South China, India, Ceylon, and Africa as far south as Abyssinia; has been met with in Alaska, and also, as a rare straggler, in Great Britain.

Frequents swampy localities and bushes near water, amongst which it creeps about like a Hedge Sparrow, and feeds on insects of various kinds, and but rarely on seeds. The song of the male is rich, loud, and varied, and has a peculiar metallic sound, and is generally uttered from the top of a bush or a dead tree. It breeds in June, constructing a nest of dry grass-bents in a loose foundation of leaves and grass, which is placed on the ground or the side of a bank in a swampy locality. The eggs 5 or 6 in number are greenish or brownish olive, sometimes mottled or clouded, usually paler than those of the Nightingale and smaller, measuring about 0·78 by 0·57.

ERITHACUS, Cuv., 1801.

95. REDBREAST.

ERITHACUS RUBECULA.

Erithacus rubecula (Linn.), Syst. Nat. i. p. 337 (1766); Hewitson, i. p. 98, pl. xxviii.; (Naumann), ii. p. 397, Taf. 75, figs. 1, 2; Gould, B. of E., pl. 98; id. B. of Gt. Brit. iii. pl. 48; Newton, i. p. 305; Dresser, ii. p. 329, pl. 51; Seebohm, Cat. B. Br. Mus. v. p. 299; Saunders, p. 37; Lilford, iii. p. 6, pl. 3.

Rouge-gorge, French; *Pisco de peito-ruivo,* Portug.; *Petirojo,* Span.; *Pettirosso,* Ital.; *Rothkehlchen,* German; *Roodborstje,* Dutch; *Rödkjaelk,* Dan.; *Rödstrubesanger,* Norweg.; *Rödhake-sångaren,* Swed.; *Kultarintakerttu,* Finn.; *Malinovka,* Russ.

♂ *ad.* (England). Upper parts olivaceous brown; wings and tail dark brown margined with olive; chin, throat, breast, and forehead rich orange red bordered with slate-blue; rest of the under parts white, the flanks and vent washed with olive brown; bill blackish brown, lighter at the base; legs brown; iris dark brown. Culmen 0·55, wing 2·9, tail 2·5, tarsus 1·0 inch. The female differs from the male only in being somewhat duller in tinge, but the young are sandy brown above, spotted with dark brown and dirty white below, marked with dark brown and washed with yellowish brown on the breast and flanks.

Hab. Europe from the Azores and Canaries to Asia Minor, Turkestan, and Persia, and from the Arctic circle to North Africa, being resident in most of its range.

Tame and familiar to a degree the Redbreast is one of our best known species.

It frequents groves, gardens, and is especially fond of the vicinity of man. Its sweet song may be heard not only during the breeding season but also after the autumn moult, throughout the winter during fine weather. It places its nest in a bank, amongst ivy, in holes of trees, on a shelf in an outhouse, or in an inhabited house, in an old shoe or an old pot, or in almost any odd place; and deposits from March to May 5 to 8 eggs pale reddish white, spotted and blotched with red, sometimes nearly pure white, measuring 0·76 by 0·60. Individuals vary greatly in intensity of colour, and examples having the red breast very dark, from Teneriffe, have been separated specifically (*Erithacus superbus* Koenig), but in my opinion without sufficient reason, as I have examined central European examples as richly coloured.

96. PERSIAN REDBREAST.

ERITHACUS HYRCANUS.

Erithacus hyrcanus, Blanf. Ibis., p. 79 (1874); id. E. Pers. ii. p. 160, pl. xv. fig. 2; Dresser, B. of E. ix. p. 47, pl. 644; Seebohm, Cat. B. Br. Mus. V. p. 301.

♂ *ad.* (*Persia*). Resembles *E. rubecula*, but the red on the breast and throat is deeper in colour and the upper tail-coverts are chestnut-brown or dull ferruginous and not olivaceous. Culmen 0·65, wing 3·8, tail 2·35, tarsus 0·5 inch. The female does not appreciably differ from the male, and individual specimens vary considerably in the tone of colour of the throat and upper breast.

Hab. The Caucasus eastward to Persia, and appears to breed throughout that area. In the winter it passes south, but we do not yet know where its winter quarters are.

In habits, song, and nidification, it does not differ from its western congener, and its eggs are not separable from those of that species.

97. TEMMINCK'S REDBREAST.

ERITHACUS KOMADORI.

Erithacus komadori (Temm.), Pl. Col. No. 570 (1824); (Temm. and Schlegel), Faun. Jap. Aves. p. 55, pl. xxi. C; Seebohm, Cat. B. Br. Mus. v. p. 298.

Aka-hige, Jap.

♂ *ad.* Upper parts orange chestnut; lores, cheeks, throat, chin, breast and flanks margined with white; rest of the under parts white; under wing-coverts black margined with white; axillaries white with dark centres; bill and legs brown. Culmen 0·68, wing 2·9, tail 1·9, tarsus 1·02 inch. The female is less brilliant in colour, and the black portions of the plumage are replaced by creamy white margined with slate-grey; centre of abdomen and under tail-coverts white; forehead russet brown.

Originally described from cage birds obtained in Japan, this Redbreast is supposed to have been brought thither from Corea but no collectors have obtained it there. It has, however, been obtained on Yaye-yama island in the southern group of the Loo-choo group, where it is probably indigenous. Nothing is as yet known of its general habits or nidification, and I have not been able to examine a specimen.

98. JAPANESE REDBREAST.

ERITHACUS AKAHIGE.

Erithacus akahige (Temm.) Pl. Col. No. 571 (1824); (Temm. and Schlegel), Faun. Jap. Aves. p. 55, pl. xxi. B; Seebohm, Cat. B. Br Mus. v. p. 299; David and Oust. Ois. Chine, p. 230.

Komadori, Jap.

♂ *ad.* (Japan). Upper parts russet brown; upper tail-coverts and tail orange chestnut; forehead, throat, breast and sides of the head and neck orange chestnut; lower breast and under parts slate-grey, brownish on the flanks and nearly white on the centre of the abdomen; wings, axillaries, and under tail-coverts brown, the quills externally margined with russet. Culmen 0·6, wing 3·0, tail 2·1, tarsus 1·15 inch. The female has the chestnut paler and duller, and the slate-grey is replaced by brown.

Hab. Japan and north-eastern China. It breeds in the mountains at considerable altitudes. and winters on the plains. It is said not to have occurred in Yesso in a wild state, but is common in southern Japan and breeds on the Seven Islands.

I do not find any record of its breeding habits, nor description of its nest or eggs.

CALLIOPE, Gould, 1837.

99. SIBERIAN RUBY-THROAT.

CALLIOPE CAMTSCHATKENSIS.

Calliope camtschatkensis, (Gmel.) Syst. Nat. i. p. 817 (1788); Dresser, B. of E. ii. p. 341, pl. 52; Gould, B. of E. pl. 114; id. B. of Asia, iv. pl. 38; Taczanowski, J. f. O. 1873, Taf. i. (egg); *Erithacus calliope*, (Pall.); Seebohm, Cat. B. Br. Mus. v. p. 305; Tacz. F. O. Sib. O. p. 335; Oates, F. Brit. Ind. Birds, ii. p. 102.

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Gunpigora, Beng.; *Gangula*, Nep.

♂ *ad.* (Ural). Upper parts wood-brown tinged with olive, the head darker, a line from the forehead over the eye and a moustachial stripe white; lores and space below the eye black; throat and fore-neck bright scarlet and bordered with deep slate-grey; upper breast brownish grey; lower breast and flanks buffy grey, rest of the under parts white; bill brown, whitish at the base; legs plumbeous brown; iris brown. Culmen 0·55, wing 3·0, tail 2·6, tarsus 1·1 inch. The female lacks the red throat, this part being dull white, the superciliary line is buffy white and the moustachial line is absent; rest of the under parts dull light brown, but the centre of the abdomen is white. The young bird is mottled.

Hab. Asia, north to the Arctic Circle, east to Japan, south to Mongolia and northern China, wintering in southern China, Burma, India, and the Philippines; has occurred in the Ural district and the Caucasus, and has strayed as far west in Europe as France, and possibly to England (cf. Ibis, 1901, p. 158).

It inhabits wooded localities near water, both on the plains and in the hills to the limit of tree growth, and is shy and wary in its habits, creeping amongst the dense willow thickets, and seldom venturing into the open when disturbed. Its song is soft and sweet, but somewhat unvaried. It feeds on insects which it obtains chiefly on the ground and constantly erects its tail when hopping about. Its nest is placed on the ground at the foot of a bush or amongst dense herbage, and is constructed of dried grasses and lined with fine bents. Its eggs, 4 or 5 in number, are deposited late in June or early in July, and are greenish blue sparingly marked, chiefly at the larger end, with pale red spots. In size they measure from 18·8 by 15·3 to 21·4 by 16 millimeters (from 0·74 by 0·60 to 0·84 by 0·63 inch).

100. TIBETAN RUBY-THROAT.

CALLIOPE TSCHEBAIEVI.

Calliope tschebaievi, Prejv. Mongol i Strana Tangut, ii. p. 44, tab. ix. fig. 1 (1876); Gould, B. of Asia, iv. pl. 40; Seebohm, Cat. B. Br. Mus. v. p. 308; Oates, F. Brit. Ind. Birds, ii. p. 103; Pleske, Prjevalsky's Reisen, Vögel, ii. p. 73, Taf. i. fig. 3, 4. Taf. v. fig. 9 (egg).

♂ *ad.* (Sikhim). Resembles *C. pectoralis* but has the upper parts olive-brown tinged with russet, and the cheeks white not black. The female and young of the two species are undistinguishable. Culmen 0·6, wing 3·0, tail 2·3, tarsus 1·2 inch.

Hab. Tibet, Kan-su, Sikhim and Assam, extending to the Khási Hills where it is common at Shillong, and has been obtained at Mymensing and Bhamo.

Inhabits the sub-alpine bush region and in Kansu is rarer than *C. camtschatkensis.* It has been found breeding there, the nest being placed on the ground under a *Spiræa* bush, and was round, with a hole in the side, and constructed of dried grasses. The eggs, 4 in number, were bluish green with very faint rust-red spots, and measured 20·5 by 15·5 millimetres (0·81 by 0·61 inch).

101. HIMALAYAN RUBY-THROAT.

CALLIOPE PECTORALIS.

Calliope pectoralis, Gould, Icon. Av. part i. pl. iv. (1837) ; id., B. of Asia ; iv. pl. 39 ; (Seebohm), Cat. B. Br. Mus. v. p. 306 ; Oates, F. Brit. Ind. Birds, ii. p. 103 ; *C. bailloni,* Severtz. Turk. Jevot, pp. 65, 122 (1873).

♂ *ad.* (Himalayas). Upper parts dark slate tinged with olive ; the crown blacker, forehead and supercilium white ; middle of chin and throat bright crimson ; sides of chin and throat, and entire breast black, rest of under parts white ; central tail-feathers black, the rest white on the basal half, then black tipped with white ; bill blackish brown ; legs brown ; iris livid. Culmen 0·6, wing 3·0, tail 2·4, tarsus 1·2 inch. The female has the upper parts earthy brown, the forehead and supercilium dull white ; chin and middle of throat white ; abdomen pale fulvous, and the dark portions of the tail brown not black. The nestling has the upper parts fulvous brown streaked with fulvous ; underparts marked with dark brown, the tail feathers tipped with fulvous, but the male has the base of the tail white. In the autumn the adult male has the feathers margined with ashy.

Hab. Turkestan and the higher portions of the Himalayas from Gilgit to Sikhim and Bhutan, wintering at lower altitudes and on the plains at the foot of the hills.

It breeds in Kashmir and Sikhim at an altitude of 10,000 feet and upwards, but there is no recorded instance of its nest having been taken and properly identified. A nest said to belong to it was taken in Sikhim, but the eggs were pale salmon buff, which makes it doubtful that they belonged to this species.

COSSYPHA, Guérin, 1843.

102. WHITE-THROATED CHAT.

COSSYPHA GUTTURALIS.

Cossypha gutturalis Guérin. Rev. Zool. p. 162 (1843) ; Guér. and Lafresn. in Ferr. et Galin. Voy. en Abyss. iii. p. 201, pl. v. (1847) ; Dresser, B. of E. ii. p. 347, pls. 53, 54 ; (Seebohm), Cat. B. Br. Mus. v. p. 304 ; *Irania filoti*, Defilippe. Arch. Zool. Modena, ii. p. 381 (1863), *Saxicola albigularis*, Pelz. Sitz. Ak., Wiss. Wien. xlviii. p. 150 (1863).

♂ *ad.* (Asia Minor). Upper parts lead-grey, wings blackish, tail black ; lores, scapulars, and sides of throat glossy black ; superciliary stripe and a narrow line from the chin widening till it reaches the breast pure white ; breast and underparts yellowish rufous ; centre of abdomen white washed with pale rufous ; under wing-coverts rufous, thighs lead-grey tinged with rufous ; bill and legs black ; iris brown. Culmen 0·65, wing 3·75· tail 3·0, tarsus 1·05 inch. The female has the upper parts and wings brownish grey, tail black, sides of head, neck and upper breast brownish grey ; a dull white spot on the throat ; lower breast and under parts otherwise dull white ; flanks and breast washed with rufous. The young male has the rufous on the under parts replaced by buff. The nestling is greyish brown marked with sandy brown spots and streaks, the lower breast and abdomen dull white.

Hab. Asia Minor, Palestine, Western Turkestan, and Persia wintering in Africa south of Abyssinia.

In its habits it has much affinity with *Aedon galactodes* and frequents rough, rocky, and bush- or tree-covered localities, and when it settles on a bush or stone has a habit of jerking its tail. It is very shy and difficult of approach, for it creeps about amongst the rocks and bushes with great ease. Its song is clear and bell-like, and would rival that of the Nightingale if it were more prolonged. Its nest is placed low down on a low tree or bush, and in size, materials and position, resembles that of *Aedon galactodes*, being constructed of dry twigs and strips of bark, the upper part of fine grasses mixed with plant cotton and down with woollen threads and rags interwoven. The eggs, 4 or 5 in number, are deposited in May, and are pale greenish blue, marked all over, but more profusely at the larger end, with small rusty yellow dots and spots, and in size measure about 22·5 by 16·0 millimetres (0·88 by 0·63 inch).

NEMURA, Hodgs. 1845.

103. Redflanked Bluetail

NEMURA CYANURA.

Nemura cyanura (Pall.), Reis. Russ. Reichs. ii. App. p. 709 (1773); (Midd.) Sib. Reis. ii. p. 177, tab. 15, fig. 5, (pull); Dresser, ii. p. 355, pl. 55; (Sharpe), Cat. B. Br. Mus. iv. p. 255; Tacz. F.O. Sib. O. p. 343.

♂ *ad.* (E. Siberia). Upper parts and sides of head greyish blue washed with cobalt on the rump and upper tail-coverts; quills brown externally margined with blue; a shoulder patch cobalt; tail blue; a broad eye-stripe white narrowly edged above with blue; feathers in front of the eye blackish; under parts creamy white, flanks bright orange; bill black; legs reddish brown; iris brown. Culmen 0·45, wing 3·15, tail 2·5, tarsus 0·9 inch. The female is olivaceous brown above washed with blue on the shoulders and rump; tail blackish grey margined with blue; sides of head and neck brown marked with buff; forehead and eye-streak buff; under parts dull white, the throat tinged with buff, the breast with brownish grey, and the flanks are orange-rufous. The male often breeds in immature plumage, in which it differs but little from the female. The young are spotted like those of the Redbreast.

Hab. The Perm Government, west of the Ural to Eastern Siberia, China, and Japan, as far north as the Yenesei and Udskoi-Ostrog and as far south as Mongolia, wintering probably in south China.

In its habits it is said to be as tame and confiding as a Redbreast, to which it bears some resemblance, but has no affinity at all with the Flycatchers with which it has been united. It frequents woods, groves, and gardens, as well as bush-covered plains, and is also found in the mountains. Its call-note is short and sharp, resembling the syllables *keke, keke.* The nest is placed on the ground amongst the stones well concealed amongst the herbage, but I do not find any description of its eggs. Young birds fully fledged were obtained at Udskoi-Ostrog on the 15th July.

104. Subsp. Nemura rufilata.

Nemura rufilata (Hodgs.) P.Z.S. p. 27 (1845); *N. cyanura*, (nec. Pall.); Dresser, ii. p. 355, pl. 55 (♂ *ad.* desc. and fig.); (Seebohm), Cat. B. Br. Mus. v. p. 256; (Oates), F. Brit. Ind. Birds, ii. p. 106.

♂ *ad.* (Sikhim). Upper parts and sides of neck and head deep Prussian blue washed with bright ultramarine on the shoulders and rump;

tail deep Prussian blue ; lores blackish ; a broad streak over the eye, rich ultramarine ; under parts white ; flanks orange rufous ; bill and legs black ; iris brown. Culmen 0·5, wing 3·4, tail 2·8, tarsus 0·88 inch. The female resembles that of *N. cyanura* but has the rump greenish blue, the sides of head and neck and flanks ochreous and a patch of orange chestnut on each side of the body.

Hab. Himalayas from Gilgit and Kashmir to Sikkim; the Khasi Hills; Tipperah ; Manipur, ranging into Mongolia. In the summer it is found up to 11,000 feet, wintering at lower levels.

In habits it does not differ from *N. cyanura*, of which indeed it is but a richly coloured southern form. It breeds in May and June, placing its nest, which is constructed of moss and grass, in holes in banks and under tree-roots, and in June depositing 4 eggs, which vary from uniform white to white distinctly spotted with pale reddish brown, and measure about 0·71 by 0·56

LARVIVORA, Hodgs. 1837.

105. SIBERIAN BLUECHAT.

LARVIVORA CYANE.

Larvivora cyane (Pall.) Reis. Russ. Reichs. iii. p. 697 (1776) ; (Radde) Reis. Siber. Vögel, p. 250, pl. 10, figs. 1–4 ; (Seebohm), Cat. B. Br. Mus. v. p. 303 ; Tacz. F. O. Sib. O. p. 338.

♂ *ad.* (E. Siberia). Upper parts, cheeks, and ear-coverts dull dark blue, brighter on the forehead, and crown wings and tail brown externally washed with blue ; under parts white, the flanks washed with brown ; no eye-stripe ; bill dark brown, the base of lower mandible paler ; legs and iris brown. Culmen 0·6, wing 3·0, tail 1·9, tarsus 1·0 inch. The female is olive-brown above tinged with rufous on the wings, tail, and upper tail-coverts ; sides of chin, throat, flanks, and breast fulvous mottled with brown ; middle of chin, throat, abdomen, and under tail-coverts white. The young resemble the female.

Hab. Eastern Siberia in summer, wintering in Burma, Tenasserim, China, Mongolia, and as far south as Borneo.

Frequents dense bush-growth and vegetation through which it creeps like a mouse. Its song is sweet and melodious and is uttered from a bush, low tree, or from the ground. Its nest is placed on the ground, well concealed, and its eggs, 5 or 6 in number, are deposited in June and are uniform blue, unspotted, and in size vary from 19·0 by 13·7 to 18·2 by 15·0 millimetres. In India it is replaced by a nearly allied species. *Larvivora brunnea* Hodgs.

DAULIAS, Boie, 1831.

106. NIGHTINGALE.

DAULIAS LUSCINIA.

Daulias luscinia, Linn. Syst. Nat. i. p. 328 (1766) (Hewitson), i. p. 124, pl. xxxiii; (Naumann), ii. p. 374, Taf. 74, fig. 2; Gould, B. of E. ii. pl. 116, id., B. of Gt. Brit. ii. pl. 56; Newton, i. p. 312; Dresser, ii. p. 363, pl. 56, fig. 1; (Seebohm), Cat. B. Br. Mus. v. p. 294; Saunders, p. 39; Lilford, iii. p. 8. pl. 4.

Rossignol, French; *Ruxinol,* Portug.; *Ruiseñor,* Span.; *Rusignuolo,* Ital.; *Nachtigall,* German; *Nachtegaal,* Dutch; *Lapadnaysolovey,* Russian.

♂ *ad.* (England). Upper parts generally rich brown with a rufous tinge, under parts greyish white; upper tail-coverts and tail rusty red; bill and legs brown; iris hazel; first primary extending 0·2 beyond the primary coverts, second primary about equal to the fifth. Culmen 0·65, wing 3·3, tail 2·65, tarsus 1·05 inch. The female resembles the male but the young are darker, and have the upper parts spotted with ochreous, and the under parts washed with brownish yellow, the feathers with greyish brown edges.

Hab. Central southern and western Europe ranging into the south of England, and as far east as Russia, where, however, it is rare; winters in Africa as far south as Abyssinia, Nubia, and the Sudan. Though retiring in its habits it is not a shy bird and is often met with near human habitations.

It frequents woodlands, groves, and gardens, especially low-lying damp localities, and feeds chiefly on the ground, its food consisting almost exclusively of insects of various kinds. As a songster it is unrivalled, no European bird having so rich and varied a song. It sings both in the day and night, more especially in the latter, and its song may be heard until its young are hatched. It breeds in May and only raises one brood in the season. Its nest, which is constructed externally of dry leaves, usually those of the oak, and lined with fine bents, rootlets, and occasionally horsehair, is placed on or close to the ground in some sheltered place, where the grass and undergrowth is thick, and its eggs, 4 to 6 in number, are deep olive brown or olivaceous, unspotted, and vary in size from 0·87 by 0·67 to 0·75 by 0·53.

107. THRUSH NIGHTINGALE.

DAULIAS PHILOMELA.

Daulias philomela (Bechst.), Gemeinn. Naturg. Deutschl. iv. p. 536 (1795); (Naumann), ii. p. 362, Taf. 74, fig. 1; Dresser, ii. p. 269, pl. 56, fig. 2; (Seebohm), Cat. B. Br. Mus. v. p. 295; *Philomela turdoides*, Gould B. of E. ii. pl. 117.

Rusignuolo-foresteriero, Ital.; *Sprosser,* German; *Nattergal,* Dan.; *Näktergal,* Swed.; *Satakielinen,* Finn.; *Solovey,* Russ.

♂ *ad.* (Sweden). Differs from *D. luscinia* in being larger, less rufous in colour, the breast marked with indistinct spots, and the first primary is very short and narrow, 0·4 inch shorter than the coverts. Culmen 0·6, wing 3·6, tail 2·8, tarsus 1·18 inch. Second quill equal to or longer than the fourth, the third longest.

Hab. Europe generally as far east as S.W. Siberia; Asia Minor, and Turkestan; in summer from the valley of the Rhine up to southern Sweden, and wintering in Africa. It does not occur in Norway or Great Britain.

In general habits it resembles the common Nightingale, and its song, though deeper and more powerful, is not quite so soft and sweet as that of that species. Its call note is different and resembles the syllables *glock-arrr.* It breeds in May or June, placing its nest, which is well concealed, on the ground or on an old stump. The nest is built of dead leaves and lined with grass-bents and fine rootlets; 4 or 5 eggs, sometimes 6, are usually deposited and are like those of *D. luscinia,* olive-brown or greenish olivaceous, usually unspotted, but occasionally they are marked with pale olive-brown dots chiefly round the larger end. In size they vary from 0·8 by 0·62 to 0·9 by 0·65, and are as a rule paler and more elongated than those of *D. luscinia.*

108. PERSIAN NIGHTINGALE.

DAULIAS HAFIZI.

Daulias hafizi (Severtzoff), Turk. Jevot., p. 120 (1873); Blanf., E. Persia, ii. p. 169, pl. x, fig. 2; Dresser, ix. p. 49, pl. 645; *Lusciola golzii,* Cab. J. f. O. 1873, p. 79; (Seebohm), Cat. B. Br. Mus. v. p. 297.

Sololvei, Russ.; *Bulbul,* Persian; *Sanduas,* Tartar; *Sochak,* Armenian.

♂ *ad.* (Lenkoran). Differs from *D. luscinia* in having a longer wing and tail, in having the lores and a stripe over the eye dull white; the rump, upper tail-coverts and tail are not so deep red in colour, and the first primary is about equal in length to the primary-coverts. Culmen 0·7, wing 3·3, tail 3·1, tarsus 1·1 inch, second primary equal to the fifth in length.

Hab. The Caucasus east to Persia and Turkestan. Two specimens have been obtained in Oudh, India, one in October and one in November.

In general habit it agrees closely with the Western Nightingale but its song is inferior. Its nest and eggs also closely resemble those of *D. luscinia.*

SYLVIA, Scop, 1769.

109. BARRED WARBLER.

SYLVIA NISORIA.

Sylvia nisoria (Bechst.) Gemeinn. Naturg. Deutschl. iv. p. 580, pl. xvii. (1795) ; Naumann, ii. p. 430 Taf. 76, figs. 1, 2 ; Gould, B. of Eur. ii. p. 128 ; Dresser, ii. p. 435, pl. 68 ; Seebohm, Cat. B. Br. Mus. v. p. 6 ; Saunders, p. 51 ; Lilford, iii. p. 60, pl. 30.

Fauvette épervière, French ; *Bigia striata,* Ital. ; *Sperbergrasmücke,* German ; *Brystvatret-Sanger,* Dan. ; *Bröstvattradsångare,* Swed. ; *Podoreschnik,* Russ. ; *Kirjarinta-kerttu,* Finn.

♂ *ad.* (Sweden). Upper parts dark ashy grey with a brownish tinge on the back ; the lower back, rump, upper tail-coverts, and some of the scapulars barred with blackish grey and tipped with white ; quills dark brown ; tail dark ashy, the outer feather bordered externally with white, the rest except the central ones similarly bordered on the inner web ; sides of neck and head and greyish, the rest of the under parts white, all barred with dark ashy grey crescentic bands ; flanks washed with grey ; bill dark horn, yellowish at base of lower mandible ; legs dull yellowish flesh ; iris pale yellow. Culmen 0·65, wing 3·5, tail 2·95, tarsus 1·0 inch. The female resembles the male, but is browner and less barred on the under parts. The young are unbarred, sandy grey above and white below, on the breast and flanks washed with sandy buff ; wings and tail browner, the secondaries and wing-coverts edged and tipped with dull whitey brown.

Hab. Europe ; from southern Sweden east to the Ural and south to the Rhine ; Turkestan, the Altai range, Persia, and the Caucasus, and winters south of Nubia, probably in Central Africa ; has frequently occurred as far west as Great Britain and Ireland.

In general habits it resembles the Garden-Warbler, frequents groves and gardens, not the true forest. It is very shy and retiring and is constantly in motion. Its song is loud, clear, and melodious, beginning and ending with a chattering call, and its call-note is harsh. It breeds in May, placing its nest on a bush or tree. The nest is cup-shaped, neatly constructed of dry grasses or plants, intermixed with spiders' webs and lined with horsehair. The eggs, 4 to 6 in number, are pale creamy grey with scarcely visible grey marblings, or creamy grey with indistinct pale purplish grey or pale brown markings, and in size vary from 0·85 by 0·61 to 0·86 by 0·65. It feeds chiefly on insects but also to some extent on fruit and berries.

110. WHITETHROAT.

SYLVIA CINEREA.

Sylvia cinerea, Lath. Ind. Orn. ii. p. 514 (1790); Hewitson, i. p. 130, pl. xxxv. figs. 1, 2; Naumann, ii. p. 464, Taf. 78, figs. 1, 2; Gould, B. of E. ii. pl. 125, fig. 1; id., B. of Gt. Brit. ii. pl. 57; Seebohm, Cat. B. Br. Mus. v. p. 8; Saunders, p. 41; Lilford, iii. p. 50, pl. 25; ? *S. rufa* (Bodd.) Tabl. Pl. Enl. p. 35 (1783); Newton, i. p. 406; Dresser, ii. p. 377, pl. 57; *S. fuscipilea*, Severtzoff, I. f. O. 1875, p. 176; Seebohm, Ibis, 1884, p. 427.

Fauvette grise, French; *Papa-amoras*, Portug.; *Pastorcilla*, Span.; *Sterpazzolo*, Ital.; *Dorn-Gräsmücke*, German; *Riet-vink*, Dutch; *Graa-Græssmutte*, Dan.; *Graasanger*, Norweg.; *Törnsångare*, Swed.; *Hermaa-kerttu*, Finn.; *Savirucha*, *Polewaja-Slavka*, Russ.

♂ *ad.* (Norway). Upper parts greyish brown, becoming ash-grey on the head and upper tail-coverts; wing-coverts and secondaries broadly margined with rusty red; tail brown with lighter margins, the outer feathers broadly edged with white; under parts white, the lower throat and breast washed with dull rose, the flanks and under tail-coverts with pale buffy brown; bill blackish brown, the base of the lower mandible yellowish flesh; legs yellowish flesh; iris yellowish brown. Culmen 0·48, wing 2·75, tail 2·52, tarsus 0·85 inch; spurious primary 0·1 inch shorter than the coverts; second, third, and fourth nearly equal, the second rather the shortest. The female is duller, has the head browner, and the breast washed with pale ashy brown, not rose colour. In the autumn the upper parts are more rufous.

Hab. Europe generally, north to about 65° in Scandinavia, south to the Mediterranean, wintering in the Canaries and Africa as far south as Damaraland; Asia Minor, Palestine, and

Asia east to Turkestan, north to Western Siberia, south to India, where it is rare.

Frequents gardens and groves, and is not as a rule shy. Its song is short and somewhat monotonous, often uttered when flying jerkily from bush to bush. Its food consists of insects and their larvæ. Its nest is placed amongst grass or weeds or on a bush, usually not high above the ground, and is lightly constructed of dried grass-bents and plant-stems, lined with fine bents and occasionally a few horsehairs, and the eggs, 4 to 6 in number, are usually deposited in May and are greenish white speckled and spotted with greyish olive and mottled or marbled with pale brownish; in size they measure about 0·73 by 0·48.

Specimens from Palestine, the Altai range, Persia, Turkestan, and Somaliland (*S. fuscipilea*) are as a rule a trifle larger, darker and greyer, but are not even sub-specifically distinct.

111. HIMALAYAN WHITETHROAT.

SYLVIA ALTHÆA.

Sylvia althæa, Hume, Stray Feathers, vii. p. 60 (1878); Pleske Orn. Ross. p. 99, pl. 1, figs. 1, 2; Dresser, ix. p. 57, pl. 646, fig. 2; Seebohm, Cat. B. Br. Mus. v. p. 20; Oates, F. Brit. Ind. Birds, i. p. 397.

ad. (Transcaspia). Upper parts dark bluish grey, tinged with brown on the back; wings and tail blackish brown; outer tail-feathers white except on the basal portion of the inner web, and the central tail-feathers lighter brown than the others; under parts white, flanks washed with grey; bill dark horn; legs plumbeous brown; iris light brown. Culmen 0·6, wing 2·65, tail 2·4, tarsus 0·85 inch; second primary intermediate between the sixth and seventh. The sexes do not appreciably differ, except that the female is generally the smaller. In the autumn the upper parts are bluer in colour, and the flanks are deeper grey.

Hab. Transcaspia, Turkestan, Persia, and Kashmir, wintering in India, probably as far south as Ceylon.

It inhabits bush-covered localities and is found in the mountains as high as 9,000 feet. Its nest resembles that of *S. cinerea* and its eggs, usually 5 in number, are deposited in May, are dull white finely marked with greenish grey, and measure about 0·67 by 0·53.

112. Lesser Whitethroat.

SYLVIA CURRUCA.

Sylvia curruca (Linn.), Syst. Nat. i. p. 329 (1766) ; Hewitson, i. p. 132, pl. xxxv. fig. 4 ; Naumann, ii. p. 451, Taf. 77, fig. 1 ; Gould, B. of Gt. Brit. ii. pl. 58 ; Newton, i. p. 410 ; Dresser, ii. p. 383, pl. 58 ; Seebohm, Cat. B. Br. Mus. v. p. 17 ; Tacz. F. O. Sib. O. p. 277 ; Saunders, p. 43 ; Lilford, iii. p. 52, pl. 26 ; *S. garrula*, Bechst., Gemeinn. Naturg. Deutschl., 2nd ed. ii. p. 540 (1807) ; Gould, B. of Eur. ii. pl. 125.

Becfin-babillard, French ; *Parlanchin*, Span. ; *Zaun-Gräsmücke*, German ; *Braamsluiper*, Dutch ; *Gjærdesanger*, Dan. ; *Græssmutte*, Norweg. ; *Ärtsmyg*, Swed. ; *Herne-kerttu*, Finn. ; *Peresmeshka*, Russ.

♂ *ad.* (Turkey). Crown smoke-grey ; lores and ear-coverts blackish brown ; upper parts generally brownish smoke-grey ; wings and tail blackish brown, the primaries margined with ashy brown, the inner secondaries with whitish grey ; outer tail feather whitish grey ; under parts white with a rosy tinge, washed with pale rufous on the flanks ; bill blackish, the base of the lower mandible dull yellowish ; legs plumbeous ; iris pearly white. Culmen 0·45, wing 2·55, tail 2·3, tarsus 0·75 inch ; first primary 1·1 inch shorter than the second, which is intermediate between the fifth and sixth, the third and fourth nearly equal and longest. The female is somewhat smaller and duller, the head browner, lores and ear-coverts paler, and under parts tinged with grey. Young birds have the upper parts browner and the under parts washed with pale brown.

Hab. Europe generally from the Mediterranean north to Trondhjem in Norway and from western Europe at least to the Ural: common in Great Britain up to Stirlingshire above which it is rare ; winters in Africa as far south as Nubia and Abyssinia.

It affects woodlands, groves, and gardens, but not the true forest, and prefers bush-growth, hedges, &c., to trees. Lively and active, it is by no means shy when unmolested. Its call-note is harsh and its song consists of a number of hasty twittering and flute-like notes, with a frequent repetition of the syllables *sip, sip, sip,* and, though pleasing, lacks variety. It feeds chiefly on insects of various kinds and their larvæ, but also to some extent on fruit and berries. It breeds in May or June, placing its nest on a bush not very high above the ground, this latter being slightly though firmly constructed of dried bents lined with fine bents, rootlets, and horsehair. The eggs, usually 4 or 5 in number, are white, boldly but sparingly blotched with dull light brown and purplish grey shell-markings, and darker brown surface-spots which are larger and more profuse at the larger end, and in size average about 0·65 by 0·51.

113. SIBERIAN WHITETHROAT.

SYLVIA AFFINIS.

Sylvia affinis Blyth, Cat. B. B. Mus. As. Soc. p. 187 (1849); Dresser, ix. p. 53; Seebohm, Cat. B. Br. Mus. v. p. 19; Oates, F. Brit. Ind. Birds, ii. p. 397.

Resembles *S. curruca*, but has the second primary intermediate between the sixth and seventh and the upper parts are browner. Culmen 0·5, wing 2·55, tail 2·4, tarsus 0·85 inch.

Hab. Western Siberia, north almost to the limit of the forest growth, Turkestan, Persia, and Northern China, wintering in Baluchistan, India, and Ceylon.

In habits and nidification it does not differ from *S. curruca*, and its eggs closely resemble those of that species. It differs, in fact, but little from *S. curruca* and is rather a questionable species, as the wing formula is frequently somewhat variable.

114. LEAST WHITETHROAT.

SYLVIA MINUSCULA.

Sylvia minuscula Hume, Stray Feathers, viii. p. 103 (1879); Pleske, Orn. Ross. p. 102, pl. i. figs. 5, 6, 7; Dresser, ix. p. 53, pl. 646, fig. 1; Seebohm, Cat. B. Br. Mus. v. p. 20, pl. 1; Oates, F. Brit. Ind. Birds, ii. p. 398.

Tint-Kornu, Tuntu in Yarkand.

Ad. Crown bluish grey; back sandy brown, much paler than in *S. curruca*; second primary intermediate between the seventh and eighth, or equal to the seventh. Culmen 0·5, wing 2·4, tail 2·15, tarsus 0·8 inch.

Hab. Asia from the Caspian through Afghanistan, Turkestan, and Kashmir to Mongolia, wintering in Baluchistan, Sind, and northern India as far east as Jodhpore.

In habits and nidification it closely resembles *S. curruca*, but its eggs are somewhat smaller than those of that species.

115. GARDEN-WARBLER.

SYLVIA HORTENSIS.

Sylvia hortensis Bechst., Gemeinn. Naturg. Deutschl. iv. p. 550 (1795); Hewitson, i. p. 128, pl. xxxiv. figs. 3, 4; Naumann, ii. p. 478, Taf. 78, fig. 3. Gould, B. of Eur. ii. pl. 121; id., B. of Gt. Brit. ii. pl. 62; Saunders, p. 49; Lilford, iii. p. 54, pl. 27; *S. salicaria* (Linn.) apud Newton, i. p. 414; Dresser, ii. p. 429, pl. 53.

Fauvette des Jardins, French; *Andahuertas*, Span.; *Beccafico*, Ital.; *Garten-Gräsmücke*, German; *Tuinfluiter*, Dutch; *Havesmutte*, Dan.; *Havesanger*, Norweg.; *Trädgårdssångaren*, Swed.; *Lehtokerttu*, Finn.; *Ssmorodinka*, Russ.

♂ *ad.* (Norway). Upper parts hair-brown, the wings and tail rather darker; chin, throat and under parts white, the throat, breast, and flanks washed with buff or buffy brown; under wing-coverts pale buff, bill lead brown, lower mandible reddish white at base; legs plumbeous; iris brown. Culmen, 0·45, wing 3·12, tail 2·32, tarsus 0·8 inch. First quill longer than the third, the second longest. The female does not differ perceptibly from the male except in being a trifle paler, and the young are darker above with a greenish tinge and the under parts are washed with yellowish.

Hab. Europe, north to the Porsanger fiord in Norway, south to the Mediterranean, and Asia as far east as the valley of the Yenesei; wintering in Africa, as far south as Damaraland and Cape Colony.

Frequents gardens and groves, especially where there is good cover, and is shy and secretive in its habits. Its song is sweet, though wild and irregular, and its call note is a deep harsh *tack, tack, tack.* It feeds on insects and also on fruit and berries. Its nest is usually placed in a bush or a bramble vine and is lightly constructed of grass-bents and rootlets, intermixed with a little wool and moss, and lined with fine roots and sometimes a little hair. The eggs, 4 or 5 in number, are deposited in May or June and are pale French white with lilac-grey shell-markings and clouded and marbled with olivaceous brown, sometimes also spotted and speckled with dark brown. In size they vary from 0·6 by 0·53 to 0·87 by 0·6. Only one brood is raised in the season.

116. Desert Warbler.

SYLVIA NANA.

Sylvia nana (Hempr. and Ehr.), Symb. Phys. *Aves* fol. c.c. (1829); Gould, B. of Asia, iv. pl. 50; Dresser, ix. p. 63, pl. 648; Seebohm, Cat. B. Br. M. p. 26; Oates, F. Brit. Ind. Birds, ii. p. 396; *S. aralensis*, Eversm. Bull. Soc. Nat. Mosc. xxiii. pt. 2, p. 565, pl. viii. fig. 1; Prjev. Mongol. i. Strana Tangut., tab. xx. fig. 5, (egg) i.; *S. deserti*, Loche, Rev. and Mag. Zool. 1858. p. 394, pl. xi. fig. 1; *S. delicatula*, Hartl., Ibis, 1859, p. 340, pl. x. fig. 1; *S. doriæ*, Defilippi Viagg. Pers. p. 248; *S. chrysophthalmus*, Hengl. Orn. N. O. Afr. i. p. 306.

Bajalyschnitschek, Russ.

♂ *ad.* (Transcaspia). Upper parts greyish isabelline, the lower rump and upper tail coverts washed with rufous; quills margined with rufous buff; median rectrices rufous buff, outer rectrix white, remainder dark brown margined with rufous buff; under parts white, flanks washed with buff; bill pale horn; legs brownish isabelline; iris pale yellow. Culmen 0·4, wing 2·5, tail 1·95, tarsus 0·75 inch. The female resembles the male. In the autumn the upper parts are more rufous in tinge, and the young are more rufous than the adult.

Hab. Northern Africa as far west as Algeria; Arabia, Persia, Transcaspia, Turkestan, N.W. India, east to Alaschan in China; a straggler to European Russia, and has been once recorded from Italy.

Frequents sandy sterile localities, where there are bushes, and feeds almost entirely on small insects which it picks up from the ground. It is shy and restless and is said to somewhat resemble *Drymœca* in its general habits. Its song is rich and pleasant, and is somewhat like that of the Whitethroat. Its nest resembles that of the Reed-Warbler, is elongate, purse-shaped, open, constructed of grass-bents and blades and leaves, and carefully lined with wool, and the eggs are greenish white spotted and marked with olive-green surface spots, and pale lilac underlying shell-markings, the markings being more numerous at the larger end. In size they measure 1·4 by 1·1 cm. Algerian examples are as a rule more rufous in tone of colour than those from Asia, and Dr. Koenig considers the Algerian bird to be specifically separable, a view with which however I do not agree.

117. SPECTACLED WARBLER.

SYLVIA CONSPICILLATA.

Sylvia conspicillata, Marm. fide Temm. Man. d'Orn. i. p. 210 (1820); Temm. Pt. Col. 6, fig. 1; Dresser, ii. p. 393, pl. 60; Seebohm, Cat. B. Br. Mus. v. p. 22; *S. passerina,* (Gmel.) fide Temm. Man. d'Orn., i. p. 213.

Babillard à lunettes, French; *Friolencos,* Span.; *Sterpazzola-sarda,* Ital.

♂ *ad.* (Sicily). Crown and sides of head to below the eye slate-grey; lores and a narrow frontal line blackish; back brownish ash washed with grey on the rump and upper tail-coverts; tail dark brown; the outer feather white with a brown shaft, the next two tipped with white; wing feathers margined with rufous; chin, sides of throat, and centre of abdomen white, throat otherwise ashy blue; lower breast flanks and under tail-coverts rosy rufous; bill dark horn, yellowish at the base; legs yellowish brown; iris brown, edge of eyelids red. Culmen 0·4, wing 2·25, tail 2·1, tarsus 0·7 inch. The female is duller and paler, crown pale ash, the feathers with brown tips; sides of head and lores darker and greyer; under parts white, the breast and flanks washed with rosy rufous. The young resemble the female but are browner and have no grey on the head; wings and tail with broad rufous margins: throat white; rest of under parts pale rufous buff, becoming nearly white on the abdomen.

Hab. The Mediterranean area as far east as Palestine and west to the Canaries and Cape Verd Islands. In the southern portion of its range it is a resident, but in south Europe it migrates further south in the autumn.

It frequents dry localities where there is low scrub, and is shy and secretive, but otherwise resembles the Whitethroat in its habits. Its song is short and pleasing and is uttered from the top of a bush or when the bird is hovering in the air. Its nest, which is loosely but neatly constructed of grass-bents and lined with horsehair, is placed low down in a bush. The eggs, 4 or 5 in number, are pale greenish grey, minutely freckled with greenish brown, and are usually deposited in April or May. In size they average about 0·64 by 0·49.

118. MÉNÉTRIÉS'S WARBLER.

SYLVIA MYSTACEA.

Sylvia mystacea, Ménétr. Cat. Rais. p. 34 (1832); Dresser, ix. p. 59, pl. 647; Seebohm, Cat. B. Br. Mus. v. p. 20, (partim); *S. rubescens,* Blanf., Ibis, 1874, p. 77.

Bjeloussyj-Kusnetschik, Russ.

♂ *ad.* (Lenkoran). Crown, sides of the head, and ear-coverts dull black gradually merging into the grey on the upper parts which are slate-grey; wings and tail blackish, externally margined with slate-grey; outer rectrix with outer web and end white, the next tipped with white; chin and a line bordering the black on the sides of the head pure white; throat and breast chestnut-vinous; flanks pale reddish; rest of the under parts white; beak brown, lower mandible yellowish at the base; legs brownish isabelline; iris clear chestnut-red, the bare skin round the eye bright yellow. Culmen 0·48, wing 2·35, tail 2·1, tarsus 0·75 inch. The female has the entire upper parts plain brownish grey, the margins to the wings and tail also brownish grey, and the under parts white tinged with pale ochreous.

Hab. From the Caucasus through Transcaspia to Persia, Turkestan, and northern Afghanistan, south to Fao on the Persian Gulf.

It inhabits the plains and the lower portions of the mountains, and in its general habits does not differ from its allies, but if anything flits more nimbly through the dense bush foliage and when on the wing carries its tail very high. Its nest is placed in a bush near the ground and is constructed of tamarisk-twigs, bents, and vegetable down, and lined with finer bents, vegetable filaments and occasionaly a few horsehairs; and the eggs, which are deposited in May or early in June, are brilliant white, sometimes with a rose tinge finely dotted with black, blackish grey, or dirty brown spots, the larger end so closely spotted that the spots are confluent, and in some the black spots and dots are wanting. In size they vary from 15 by 12 to 17 by 13 millimetres (0·59 by 0·47 to 0·67 by 0·51 inch).

119. SUBALPINE WARBLER.

SYLVIA SUBALPINA.

Sylvia subalpina, Bonelli, fide Temm. Man. d'Orn. i. p. 214 (1820); Temm. Pl. Col. 6, fig. 2, and 251, figs. 2, 3; Dresser, ii. p. 389, pl. 59; Seebohm, Cat. B. Br. Mus. v. p. 27; *S. leucopogon*, Meyer, Taschenb. Deutsch. Vogelk., iii. p. 91; Gould, B. of E. pl. 124.

Babillarde subalpine, French; *Sterpazzolina*, Ital; *Cagachin*, Span.

♂ *ad.* (Greece). Upper parts plumbeous ash darker on the crown, sides of the head and neck, wings and tail blackish brown, the former with lighter margins; outer tail-feather white washed with brown at the tip, the next marked with white at the tip; throat and upper breast rich ferruginous chestnut; a white line from the base of the bill bordering the red on the throat; rest of the under parts white, washed with pale rufous, the flanks with ashy grey; bill dark horn, yellowish at the base of the lower mandible; legs fleshy brown; iris brown, the edge of the eyelids reddish. Culmen 0·5, wing 2·45, tail 2·15, tarsus 0·75 inch. The female lacks the red on the throat, has the upper parts ashy brown and the under parts buffy white, the flanks and sides of the breast washed with buffy brown.

Hab. Southern Europe and north Africa east to Palestine and probably Persia, and west to the Canaries.

In general habits it resembles the Whitethroat, inhabiting the low bushes on the plains, grass covered plains, and grain fields. Its flight is low and weak, but it moves about actively amongst the bushes. Its call-note is low and harsh and its song is short and hurried but melodious. Its nest is constructed of dry grass-bents, lined with fine roots, and a little plantcotton and is usually placed on a low bush. Its eggs 4 or 5 in number are deposited in April or May and resemble richly coloured varieties of the Dartford Warbler which have the ground colour white.

120. BOWMAN'S WARBLER.

SYLVIA MOMUS.

Sylvia momus, Hempr. and Ehr. Symb. Phys. Aves, fol. b. b. (1829); Dresser, ii. p. 407, pl. 63; *S. bowmani*, Tristr. Ibis., 1867, p. 85; *S. rubescens*, Blanf., Ibis., 1874, p. 77; id. in E. Pers. ii. p. 177, pl. xii.; *S. mystacea*, Seebohm (nec. Ménétr.), Cat. B. Br. Mus. v. p. 20 (partim).

♂ *ad.* (Jericho). Differs from *S. melanocephala* in having the upper parts much paler and greyer, the black crown sharply separated from the grey on the hind neck; under parts white washed with vinous pink on the breast and flanks; legs brown; bill dusky above, pale below; iris yellow, edge of the eyelid red. Culmen 0·5, wing 2·15, tail 2·2 tarsus 0·75 inch. The female is much paler than that of *S. melanocephala*, has the upper parts dull reddish brown with an olivaceous tinge, the under parts white slightly tinged with pink, and the breast and flanks faintly washed with pale vinous buff.

Hab. Palestine, Syria, and Asia Minor; wintering in Nubia and possibly in Abyssinia.

In habits it does not differ from *S. melanocephala*, but affects luxuriantly wooded localities whereas that species prefers the open scrub. Its nesting-habits, nest, and eggs are, so far as I can ascertain, as yet unknown.

Melizophilus rothschildi, Madarasz (Termesz Füsetek, 1901, p. 351), from Palestine, of which I have seen the type, appears to me to be very closely allied to, if separable from this species.

121. SARDINIAN WARBLER.

SYLVIA MELANOCEPHALA.

Sylvia melanocephala (Gmel.), Syst. Nat. 1, p. 970 (1788); (Gould), B. of E. ii. pl. 123; Dresser, ii. p. 401, pl. 62; Seebohm, Cat. B. Br. Brit. Mus. v. p. 29.

Fauvette mélanocéphale, French; *Tutinegra dos vallados*, Portug.; *Palmerilla*, Span.; *Occhio rosso*, Ital.

♂ *ad.* (Turkey). Upper parts dark slate-grey, shading into jet black on the nape, head, and ear-coverts; quills blackish externally narrowly, and wing-coverts more broadly margined with slate-grey; tail rounded, black, the outer feather with the outer web and tip white, the second and third also tipped with white; under parts white, the breast, flanks, and under wing-coverts washed with blue-grey; bill brownish horn, yellowish at the base of the lower mandible; legs dark brown; iris orange-red, the edge of the eyelid vermilion. Culmen 0·52, wing 2·15, tail 2·35, tarsus 0·82 inch; first primary 0·95 inch less than the second, the third longest, the fourth nearly equal. The female has the upper parts brownish grey, the head faintly tinged with slate-grey, the chin, throat, and centre of the abdomen white, the rest of the under parts dull greyish brown. The young bird scarcely differs from the female.

Hab. The Mediterranean area, from Portugal, Spain, and S. France to Asia Minor and Palestine; wintering in North Africa.

Inhabits both the plains and hills in bushy and scrub-covered localities, and is partial to cactus thickets and gardens. It skulks and creeps about amongst the bushes, and is not easy to be seen. It feeds chiefly on insects but also on fruit and the seeds of the pepper-tree. Its usual call-note is loud and harsh, resembling the winding of a clock, but it has another note, resembling the syllables *chuck, chuck, chuck*, and its song is a low rather melodious warble. When flying the tail is spread, but is closed when it alights. Its nest is placed in a bush, usually an evergreen, three or four feet from the ground, and is constructed of fine bents, rootlets, and a little cottony substance, and lined with fine roots and a few hairs. The eggs vary greatly, being either like those of a Whitethroat with clearer and darker markings, creamy-white blotched with sandy-brown or freckled with reddish, or white with violet-grey shell markings and dark red spots. In size they average about 0·61 by 0·55, and are deposited from the end of April to the middle of June.

122. BLACKCAP.

SYLVIA ATRICAPILLA.

Sylvia atricapilla (Linn.), Syst. Nat. i. p. 332 (1766); Hewitson, i. p. 126, pl. xxxiv. figs. 1, 2; Naumann, ii. p. 492, Taf. 77, figs. 2, 3, Taf. 368, figs. 1, 2; (Gould), B. of E. ii. pl. 120; (id.) B. of Gt. Brit. ii. pl. 60; Newton, i. p. 418; Dresser, ii. 421, pl. 66; Saunders, p. 47; Lilford, iii. p. 56, pl. 28; Seebohm, Cat. B. Br. Mus. v. p. 23.

Fauvette à tête noire, French; *Tutinegra real*, Portug.; *Pulverilla*, Span.; *Capinera*, Ital.; *Mönch*, German; *Zwartkop*, Dutch; *Munkefugl*, Dan.; *Sorthætte*, Norweg.; *Svarthufvade-sångare*, Swed.; *Mustapääkerttu*, Finn.; *Tschernogolovka*, Russ.

♂ *ad.* (England). Crown glossy black; upper parts generally ashy brown washed with bluish on the nape and rump; wings dark brown, externally margined with brownish ash; tail uniform ashy brown; under parts ashy grey, the chin, abdomen, under tail-coverts and under wing-coverts white; bill dark horn; legs plumbeous; iris brown. Culmen 0·45, wing 2·95, tail 2·45, tarsus 0·85 inch. The female has the crown rusty red, the upper parts browner without any trace of ashy blue, and the under parts ashy brown, where in the male they are ashy grey. In the winter the upper and under parts are tinged with buffy brown.

Hab. Europe, from North Africa to about 66° N. Lat., in Scandinavia, and from the Azores and Canaries to the Ural range and Persia, wintering in Africa as far south as Senegal, Nubia, and Abyssinia. It has once been recorded from Siberia; Great Britain north to Ross-shire, rarer in Ireland.

Frequents woods, groves, and gardens, avoiding open places, and creeps about amongst the foliage being far less at home there than on the ground. Its call note resembles the syllables *tack, tack,* and its alarm note is a low harsh *sharr*. Its song is rich and sweet, not much below that of the Nightingale in melody, and is generally uttered from some elevated perch. It feeds chiefly on insects, but also on fruit and berries. The nest is placed in a bush or low tree, and is loosely constructed of grass, straws, and rootlets, and lined with fine bents and horse-hair. The eggs are subject to considerable variation, but there are generally two forms, the one resembling the eggs of the

Garden Warbler, and the other having the ground colour and clouding pinkish, and the markings reddish-brown. In size they average about 0·73 by 0·57. *Sylvia heinckeni* from Madeira is merely a melanism of this species.

123. ORPHEAN WARBLER.

SYLVIA ORPHEA.

Sylvia orphea, Temm. Man. d'Orn. p. 107 (1815); Hewitson, i. p. 133, pl. xxxv. fig. 3; Naumann, ii. p. 445, Taf. 76, figs. 3, 4; (Gould), B. of Gt. Brit. ii. pl. 61; Newton, i. p. 423; Dresser, ii. p. 411, pl. 64; Seebohm. Cat. B. Br. Mus. v. p. 14; Saunders, p. 45; Lilford, iii. p. 57, pl. 29.

Fauvette orphée, French; *Rosinyol masearat*, Span.; *Bigia grossa*, Ital.

♂ *ad.* (Spain). Crown and sides of head extending below the eye black, paler on the nape; upper parts ashy grey with a brownish tinge; wings blackish brown, externally paler margined; tail blackish, the external feather white on outer web and along the middle of the inner web; the next two with an apical white spot; under parts white, the breast and flanks tinged with vinous grey; under wing- and tail-coverts and lower flanks pale reddish grey; upper mandible black, the lower bluish with black tip; legs brownish plumbeous; iris bright sulphur yellow. Culmen 0·71, wing 3·1, tail 2·6, tarsus 0·9 inch. The female differs merely in being duller and having less black on the head. The young bird is paler and browner, and has the black on the head replaced by lead grey.

Hab. Southern Europe and North Africa as far north as Luxemburg, and as far east as South Russia and Greece, where it meets the eastern form; has been twice recorded from England; winters in Central Africa.

In its habits it is restless and active but somewhat shy. Its food consists chiefly of insects, but it feeds also on berries and fruit. Its song is louder and harsher than that of the Blackcap, consisting both of clear flute-like notes and also harsh ones like those of the Reed-Warbler. It frequents bushes and trees, and breeds late in April or in May, placing its nest on bushes and also on trees at a considerable height above the ground. The nest is composed of coarse bents and plant-stems lined with fine bents and plant cotton, and the eggs, 4 or 5 in number, are white with the faintest sea-green or bluish tinged, spotted and blotched with pale purplish grey shell markings, and blackish or dark-reddish brown surface spots, and in size vary from 0·75 by 0·6 to 0·83 by 0·63.

124. SUBSP. SYLVIA JERDONI.

Sylvia jerdoni (Blyth), I. As. Soc. Beng. xvi. p. 439 (1847); Blanf. E. Pers. ii. p. 172; Seebohm, Cat. B. Br. Mus. v. p. 16.

♂ Differs from *S. orphea* merely in having a larger bill, and the under parts are whiter. Culmen 0·77 to 0·85, wing 3·15 to 3·20, tail 2·67 to 2·89, tarsus 0·95 to 1·02 inch.

Hab. Montenegro, Dalmatia, Greece, Asia Minor and Palestine to Turkestan and Persia in summer, wintering in Arabia and the plains of India as far as Trinchinopoly in the south, and Mánbhoom in Chutia Nagpur in the east.

In habits and nidification it does not differ from *S. orphea*, but its eggs are a trifle larger. It is merely an eastern form of *S. orphea*.

125. RÜPPELL'S WARBLER.

SYLVIA RUEPPELLI.

Sylvia rueppelli, Temm. Pl. Col. 245, fig. 1 (1823); (Gould), B. of Eur. ii. pl. 122; Dresser, ii. p. 417, pl. 65; Seebohm, Cat. B. Br. Mus. v. p. 12.

♂ *ad.* (Asia Minor). Crown, lores, region round the eye, chin, and throat jet-black; upper parts otherwise blue grey; under parts white with a rose tinge; wings and tail blackish, the former margined with whitish; outer rectrix white marked with black at the base; the next two tipped with white; a white streak from the base of lower mandible extending backwards; flanks washed with blue grey; bill blackish brown, yellowish at base of lower mandible; legs pale brown; iris dark brown. Culmen, 0·58, wing 2·75, tail 2·58, tarsus 0·8 inch. The female lacks the black on the head and throat, and is duller and browner in colour; the young bird resembles the female but is browner and duller, and the secondaries are margined with dull rufous. In the winter the male is browner and has the black tipped with dirty white, and the under parts washed with greyish sandy brown. In very old females the crown is brownish black, and the throat marked with black.

Hab. Greece, Asia Minor, Palestine and Algeria, wintering in North Africa as far south as Nubia and Abyssinia.

In habits it is said to be sprightly and active, though not so lively as many of its congeners. It frequents bush-covered localities, both near water and in dry, almost desert places, and feeds on insects of various kinds. Its call-note resembles that of the Sardinian Warbler but I do not find any description of its song. It breeds in April or May and places its nest, which is neatly constructed of dry grass-bents and lined with hair, on a bush. The eggs resemble those of the Spectacled Warbler but are larger, measuring 0·75 by 0·57 and are greyish white marked with greyish brown blurred spots, giving the egg a marbled appearance.

126. Palestine Warbler.

SYLVIA MELANOTHORAX.

Sylvia melanothorax, Tristram, Ibis. 1872, p. 296 ; Dresser, ii. p. 399, pl. 61 ; Lilford, Ibis. 1889, p. 319 ; Seebohm, Cat. B. Br. Mus. v. p. 28.

♂ *ad.* (Cyprus). Upper parts as in *S. melanocephala* but rather darker ; wings blackish, externally margined with dull white ; under parts ashy grey, but throat and breast black with whitish grey margins to the feathers ; bill dark brown, pale bluish at base of lower mandible ; legs fleshy yellow ; iris reddish, the ring round the eye red. Culmen 0·55, wing 2·35, tail 2·42, tarsus 0·75 inch ; first quill about 0·2 longer than the coverts, second shorter than the third, fourth longest. The female resembles that of *S. melanocephala*, but the head is marked with blackish ; under parts white ; flanks washed with greyish brown ; throat and breast spotted with black.

Hab. Palestine, Syria, Asia Minor, and Cyprus, where it appears to be a resident.

Frequents localities covered with scrubby vegetation near the sea and to an altitude of 1700 feet and in its habits resembles both *S. melanocephala* and *Melizophilus undatus*, frequenting dense lentiscus coverts and flitting with a jerky flight from bush to bush. Its note is short and clicking, but I do not find any description of its song. It certainly breeds in Cyprus but its nest and eggs are unknown.

MELIZOPHILUS, Leach, 1876.

127. Dartford Warbler.

MELIZOPHILUS UNDATUS.

Melizophilus undatus, (Bodd.), Tabl. Pl. Enl. p. 40 (1783) ; Hewitson, i. p. 143, pl. xxxvii. ; Newton, i. p. 398 ; Dresser, ii. p. 441, pl. 69 ; Saunders, p. 55 ; Lilford, iii. p. 48, pl. 24 ; *S. provincialis*, (Gmel.) Syst. Nat. i. p. 958 (1788) ; (Gould) B. of E. ii. pl. 129 ; (id.) B. of Gt. Brit. ii. pl. 59 ; (Seebohm) Cat. B. Br. Mus. v. p. 31 ; *S. dartfordiensis*, Lath. Gen. Synop. Suppl. i. p. 287 (1790).

Pitchou Provençal, French; *Colorin, Caganchina*, Span.; *Magnanina*, Ital.

♂ *ad.* (England). Upper parts blackish grey, the crown washed with slate and the back with brown; quills and tail blackish brown, edge of the wing white and outer tail-feathers edged and tipped with dull white; centre of abdomen white, the rest of the under parts chestnut-red; under wing and tail-coverts slate grey; throat marked with silvery grey; sides of head slate-grey; bill blackish, base of lower mandible yellowish; legs reddish brown; iris orange yellow, edge of eyelid bright yellow. Culmen 0·5, wing 2·1, tail 2·7, tarsus 0·75 inch; second quill equal to seventh; tail graduated. The female is dull and paler and has the under parts much paler, and the young are darker above, and have the under parts dull grey washed with yellowish buff, the legs yellowish, and the iris yellowish brown.

Hab. Resident in England as far north as Suffolk, resident also in some parts of France, in Spain, Portugal, Italy, Sicily, Sardinia, Palestine, and North Africa; very rare in Greece, and is said to occur also in Corsica.

Frequents open ground covered with bushes, in England furze-covered commons and is very shy and secretive in its habits. Exceedingly active, it creeps about in the dense brushwork like a mouse. Its flight is quick and jerky, and when undisturbed it frequently perches on the topmost spray of a bush. Its call note resembles the syllables *pit-it-chou* or when disturbed it utters a harsh *cha, cha*, and its song is somewhat varied and hurried. The nest is placed in a bush near the ground and is sometimes firmly and at others more loosely constructed of grass-bents lined with wool or hair, and the eggs 4 to 6 in number are French white or greenish white marked with hair brown or greenish brown, the markings in some being collected chiefly at the larger end, and in others closely distributed all over the surface. In size they average about 0·66 by 0·51 inch, and are usually deposited from late in April to June.

128. TRISTRAM'S WARBLER.

MELIZOPHILUS DESERTICOLA.

Melizophilus deserticola Tristram, Ibis. 1859, p. 58; Dresser, ix. p. 69, pl. 649; (Seebohm) Cat. B. Br. Mus. v. p. 32, pl. iii; Koenig, J. f. O. 1896, Taf. 7, (eggs).

♂ *ad.* (N. Africa). Crown neck and upper parts ashy plumbeous, the rump washed with sandy buff; wings and tail blackish, the former margined with rufous buff; external tail-feathers white, except at the base; under parts pale chestnut, the middle of the abdomen whitish and an indistinct white line borders the plumbeous ash on the sides of the head and crosses the chin; upper mandible light brown, lower mandible bright yellow; legs pale lemon yellow; iris bright yellow. Culmen 0·45, wing 2·10, tail 2·20, tarsus 0·75 inch. The female differs only in being paler especially on the under parts. In winter the upper parts are washed with sandy buff, the rufous margins on the wings are broader and the under parts are paler.

Hab. North-western Africa where it breeds in Algeria, passing the winter in the southern Sahara.

In general habits it resembles the Dartford Warbler frequenting bush-covered localities. Dr. Koenig found it breeding in the Aures mountains in May. Its nest is placed in a bush, usually a rosemary, near the ground and is closely and firmly constructed of vegetable bents and fibres, and the eggs usually 4 in number resemble those of the Dartford Warbler being spotted and dotted with olivaceous on a pale green ground and in size average 16 by 13 millimetres.

129. MARMORA'S WARBLER.

MELIZOPHILUS SARDUS.

Melizophilus sardus, (Marm.) fide Temm. Man. d'Orn. i. p. 205 (1820); (Gould) B. of Eur. ii. pl. 127; Dresser, ii. p. 447, pl. 70; (Seebohm) Cat. B. Br. Mus. v. p. 35.

Pitchou sarde, French; *Magnanina sarda*, Ital.

♂ *ad.* (Sardinia). Upper parts dark slate-grey, blackish on the crown and sides of head; wings and tail blackish with slate-grey margins, the outer rectrix externally margined with white; under parts dull slate-grey, the abdomen dull white laterally washed with brown; feathers on chin and throat with whitish margins; bill dark horn, the lower mandible yellow at the base; legs yellowish brown; iris brown, edge of eyelid red. Culmen 0·4, wing 2·12, tail 2·05, tarsus 0·8 inch. The female has the upper parts browner and duller, and the under parts dull brownish slate-grey with a white spot in the centre of the abdomen. The young bird is distinguishable from that of *M. undatus* in having the upper parts paler and lacking the rusty brown tinge, and the under parts are conspicuously paler and whiter.

Hab. Portugal, the Balearic Isles, Corsica, Sardinia, and Sicily, has been obtained in the peninsula of Sinai, and is said by Loche to have occurred in Algeria. It has also been said to have occurred in Greece and Palestine, but these records are open to doubt.

In general habits it resembles its congener *M. undatus*, but its song differs somewhat in not being so grating and is said to be very characteristic; its call-note is a single short *tick*. Its nest resembles that of *M. undatus* but is more loosely constructed of dried bents and lined with horsehair and a feather or two. Its eggs, which are deposited in June or July, are dull greenish white clouded and blotched with oil-green and with a black spot or scratch or two.

LEPTOPŒCILE, Severtz, 1873.

130. SEVERTZOFF'S WARBLER.

LEPTOPŒCILE SOPHIÆ.

Leptopœcile sophiæ, Severtz. Tur. Jevot. pp. 60, 135, pl. viii. figs. 8, 9, (1873); Gould, B. of Asia, pl. xxviii.; Gadow, Cat. B. Brit. Mus. viii. p. 86; Pleske, Prjevalsky's Reisen. Vögel. ii. p. 85, Taf. vi. fig. 3, 4; Oates, F. Brit. Ind. Birds i. p. 246.

♂ *ad.* (Turkestan). Forehead and a broad supercilium buffy white; crown chestnut, slightly tinged with cobalt; back and wing-coverts bluish grey; rump rich cobalt-blue; upper tail-coverts duller; wings and tail brown externally washed with cobalt, external primary with the outer web white; sides of head and under parts vinaceous chestnut richly washed with bright cobalt; centre of abdomen buffy white; bill black; legs blackish brown; iris red. Culmen 0·4, wing 1·95, tail 2·1, tarsus 0·7 inch; first quill large, 0·54 shorter than the second which is a little shorter than the tenth, fourth and fifth equal and longest. The female has the crown brown, the blue confined to the rump except that the back is a little tinged with blue, and the under parts are buffy grey. The young bird resembles the female but has the crown chestnut-brown; the under parts are warmer in tinge, and the throat and flanks are slightly marked with blue.

Hab. Turkestan east to the mountains of Tibet and the province of Kansu. Examples from Tibet are as a rule richer and deeper coloured than from Turkestan, and again those from the bare desert localities are paler.

Is a resident throughout its range inhabiting the mountains to an altitude of 13,000 feet where it frequents dense bush-covered localities, being less seldom found amongst trees. Its call-note is a low chirp, but I do not find any record of its possessing any song worthy of the name. Prjevalsky found an empty nest placed at an altitude of about seven feet in a juniper, which was round, with the entrance hole at the side near the top, and constructed of moss, sheep's wool and plant cotton, and lined with the soft feathers of *Crossoptilon auritum*. Its eggs are as yet unknown. Mr. Pleske (op. cit. p. 93 taf. vi. fig. 5) separates a form which has the under parts uniform in colour, under the name of *Leptopœcile obscura*, Prjev., but I have not had an opportunity of examining a specimen and doubt its specific rank.

LOPHOBASILEUS, Prjev., 1887.

131. PRJEVALSKY'S CRESTED WARBLER.

LOPHOBASILEUS ELEGANS.

Lophobasileus elegans Prjevalsky, Nov. vid. Ptitz. Centr. As. Zap. Imp. Akad. Na. Vol. iv. p. 77 (1887); Pleske, Prjevalsky's Reisen, Vögel. ii. p. 97, Taf. vi. figs. 1, 2.

♂ *ad.* (Chuanche). Crown and a long crest white, on the centre of the crown washed with lilac grey; sides of neck and head to above the eye, nape and forepart of back rich chesnut; rest of the back, rump and upper tail-coverts rich verditer blue; wings and tail blackish brown, externally margined with blue; under parts warm buff, the throat and flanks washed with pale chesnut; bill dark brown; legs pale brown; iris red. Culmen 0·95, wing 2·1, tail 1·8, tarsus 0·8 inch; first primary long, 0·6 shorter than the second which is about equal to the secondaries, fifth and sixth longest. The female has the crown grey bordered by blackish grey, the back warm fulvous, the rump dull blue, sides of the head, the throat and abdomen white, and the flanks warm reddish buff.

Hab. The mountain ranges of the upper Chuanche, south of the Koh-nor.

Inhabits exclusively the conifer woods in the mountains at an altitude of 7,500 to 11,000 feet, and associates with Golden-crested Wrens and *Pœcile affinis*. Its usual note is low, but it also utters a shrill note like the call note of a Wren. Its nest and eggs are as yet unknown.

REGULUS, Koch, 1816.

132. GOLDEN-CRESTED WREN.

REGULUS CRISTATUS.

Regulus cristatus, Koch. Baier. Zool. p. 199 (1816); Gould, B. of Gt. Brit. ii. pl. 69; Newton, i. p. 449; Dresser, ii. p. 453, pls. 71, 72, fig. 2; Gadow, Cat. B. Br. Mus. viii. p. 80; Oates, F. Brit. Ind. Birds, i. p. 344; Saunders, p. 57; Lilford, iii. p. 74, pl. 37; *R. flavicapillus*, Naumann, iii. p. 968, Taf. 93, figs. 1, 2; *R. auricapillus*, Meyer, Taschenb. Deutsch. Vögelk. iii. p. 108 (1822); Hewitson, i. p. 146, pl. xxxviii. figs. 1, 2.

Roitelet ordinaire, French; *Reyezuelo,* Span.; *Regolo,* Ital.; *Goldhähnchen,* German; *Goudhantje,* Dutch; *Gultoppet-Fuglekonge,* Dan.; *Fuglekonge,* Norweg.; *Kungsfågel,* Swed.; *Hippiainen,* Finn.; *Kovolek jeltovolosui,* Russ.

♂ *ad.* (Germany). Forehead greyish brown; frontal line black merging into a broad black streak on each side of the head enclosing a yellow coronal patch deepening into orange in the centre, upper parts olive-green; wing and tail blackish brown margined with yellowish green; secondaries and wing-coverts tipped with white, and a black patch at base of secondaries; under parts greyish white, tinged with yellow; bill blackish brown; legs brown; iris hazel. Culmen 0·45, wing 2·1. tail 1·65, tarsus 0·7 inch. The female is duller in colour, and the crown is lemon-yellow, and the young resemble the female but lack the yellow on the crown which is blackish brown and olivaceous.

Hab. From Lapland and Northern Siberia to North Africa and the Himalayas, and from the Azores and western Europe to Eastern Siberia China and Japan. Azorean examples are said to have the bill larger than European birds and have been separated by Mr. Seebohm (Brit. B., 1, p. 454) under the name of *R. cristatus* var. *azoricus.* In central Asia and the Himalayas they have the nape tinged with greyish brown (var. *himalayensis* Blyth) and in Japan, where it is said to be resident, the nape is more decidedly greyish brown in tinge (var. *japonicus* Bp.) but none of these forms are sufficiently distinct to be entitled to even sub-specific rank.

In general habits it is not shy and in winter may be found consorting with Titmice and Creepers. It frequents well wooded districts and affects conifer growth. It is active and restless like the Titmice, and feeds chiefly on insects which it obtains on trees and bushes; flies, and occasionally, it is said, seeds form a portion of its diet. Its note is a shrill feeble cry not unlike that of a shrewmouse, and in the spring the male has a low but not unmelodious song. Its nest is suspended under the small outside branch of a fir or yew tree and is constructed of moss, well lined with feathers, and the eggs 5 to 9 or 10 in number are usually deposited in May, and are ochreous white, faintly reddish in tinge when unblown, very minutely dotted with pale ochreous brown at the larger end and measure about 0·51. by 0·41.

133. CANARIAN GOLDCREST.

REGULUS TENERIFFÆ.

Regulus teneriffæ, Seebohm, Brit. B. i. p. 459 (1883); *R. satelles,* Koenig, I.f.O. 1889, p. 263, 1890, Taf. v. fig. 1, Taf. viii. fig. 9, (eggs).

♂ *ad.* (Teneriffe). Differs from *R. cristatus* merely in having the black streak bordering the crown broader and continued across the forehead and the frontal line bordering the bill greyish white. Culmen 0·45, wing 2·05, tail 1·5, tarsus 0·75 inch.

Hab. The Canaries where it is resident.

Differs in no respect in its habits and nidification, and its eggs closely resemble those of *R. cristatus.*

134. Fire-Crested Wren.

REGULUS IGNICAPILLUS.

Regulus ignicapillus, (Brehm.) in Temm. Man d'Orn. i. p. 232 (1820); Hewitson, i. p. 148, pl. xxxviii. fig. 3; Naumann, iii. p. 983, Taf, 93, figs. 4, 5, 6; Gould, B. of E. ii. pl. 148, fig. 2; id., B. of Gt. Brit. ii. pl. 70; Newton, i. p. 456; Dresser, ii. p. 459, pl. 72, fig. 1, 73, fig. 1; Gadow, Cat. B. Br. Mus. viii. p. 83; Saunders, p. 59; Lilford, iii. p. 76, pl. 38.

Roitelet à triple bandeau, French; *Estrellinha,* Portug.; *Estrelliña,* Span.; *Fiorrancino,* Ital.; *Fuerköpfiges-Goldhähnchen,* German; *Vuurgoudhaantje,* Dutch; *Korolck-crasnovolosey,* Russ.

♂ *ad.* (Germany). Differs from *R. cristatus* in having the forehead greyish white, above which is a black line joining the sides of the crest where it forms a broad streak on each side of the crown; from the forehead above the eye to the nape is a greyish white streak; a blackish streak passes through the eye from the lores which are blackish, and a third dark streak from the base of the lower mandible downwards and backwards; crown rich flame orange narrowly bordered with yellow; sides of the neck below the nape rich golden green. Culmen 0·42, wing 2·12, tail 1·75, tarsus 0·7 inch. The female is rather duller and has the crown bright lemon-yellow; the young bird resembles the female but is duller in colour, and the nestling lacks the yellow and the black stripes on the head and has the crown like the back but rather darker.

Hab. Southern and Central Europe, north to Denmark; is said to be a resident in Algeria and has been recorded from as far east as Asia Minor where it is common in the Taurus range; is only a rare visitant to Great Britain and has not yet been met with in Ireland.

In general habits it differs but little from the Goldcrest but is if anything rather more silent. The nest resembles that of the Goldcrest and is generally placed in a fir tree at some altitude, but sometimes low down and even in a bush. The eggs which are deposited early in May may readily be distinguished from those of the Goldcrest in being reddish and not ochreous in tinge and sometimes the minute red dots are collected round the larger end. The number of eggs is usually 8 or 9, but as many as 11 have been found in one clutch.

135. Madeiran Gold-crest.

REGULUS MADERENSIS.

Regulus maderensis Vernon Harcourt, P.Z.S. p. 153 (1854); Dresser, ii. p. 465, pl. 73, fig. 2; Koenig, J.f.O. 1890, p. 278, Taf. viii. fig. 8 (eggs).

Abibe, Portug; *Bisbis* in Madeira.

♂ *ad.* (Madeira). Differs from *R. cristatus*, but has the crown less richly coloured, the pale streaks above and below the eye shorter, the sides of head and neck, the nape and fore-part of the back rich slaty ash, the tarsus longer and the feet larger. Culmen 0·5, wing 2·2, tail 1·8, tarsus 0·8 inch. The female is duller and has the crown paler.

Hab. Madeira.

Frequents the Laurel groves and tree heaths and in its general habits does not differ from *R. cristatus.* Its nest resembles that of our Goldcrest but is rather larger and the eggs, usually 4 in number, are white with a wreath of red dots almost confluent round the larger end, and a few paler red dots scattered over the rest of the surface, and measure about 0·54 by 0·43.

PHYLLOSCOPUS, Boie, 1826.

136. Willow-Wren

PHYLLOSCOPUS TROCHILUS.

Phylloscopus trochilus, (Linn.) Syst. Nat. 1. p. 338 (1766); (Hewitson), i. p. 137, pl. 36, figs. 1, 2; (Naumann), iii. p. 568, Taf. 80, fig. 3; (Gould), B. of E. ii. pl. 131; (id.) B. of Gt. Brit. ii. pl. 65; Newton, i. p. 432; Dresser, ii. p. 491, pls. 75, fig. 2, 76, fig. 2; Saunders, p. 69; Lilford, iii. p. 64, pl. 32; Seebohm, Cat. B. Br. Mus. v. p. 56.

Pouillot-fitis, French; *Folosa*, Portug.; *Almendrita*, Span.; *Luigiallo*, Ital.; *Fitis Laubvogel*, German; *De Fitis*, Dutch; *Löfsanger*, Danish and Norweg.; *Lofsångare* Swed.; *Uunilintu, Permalinla*, Finn.; *Panoschka obniknovennaya* Russ.

♂ *ad.* (England). Upper parts greyish brown tinged with pale green; the rump more yellowish green; under parts washed with yellowish, breast and flanks tinged with buff; superciliary streak greenish yellow; bill, legs, and iris brown. Exposed part of bastard or first primary 0·58, the second intermediate between the 5th and 6th, the third longest, the primaries externally emarginate as far as the 5th. Culmen 0·42, wing 2·65, tail 2·15, tarsus 0·82 inch. The female is rather smaller. The autumn plumage is rather yellower. In the high north the plumage is paler, occasionally almost devoid of yellow.

Hab. Europe as far north as the North Cape, and Asia as far East as the Yenesei valley; winters in southern Europe, Africa as far south as the Transvaal and the Cape, and also in Persia.

Frequents woods groves and gardens and is active and lively in its movements, continually flitting about amongst the foliage in search of its food, which consists of insects of various kinds. Its call-note is soft and low, *weed, weed*, or *whit whit*, and its song is simple but pleasing. Its nest which is semi-domed, constructed of dry grasses moss or fern and lined with hair, wool, and feathers, especially the last, is placed on the ground, and the eggs from 5 to 7, occasionally even 9 in number, are white, spotted and marked with pale red and measure about 0·6 by 0·45 inch. They are usually deposited late in April, and a second brood is generaly raised in the same season.

137. WOOD-WREN.

PHYLLOSCOPUS SIBILATRIX.

Phylloscopus sibilatrix, (Bechst.) Naturforscher, xxvii. p. 47 (1793); (Hewitson), i. p. 135, pl. 36, fig. 3; (Naumann), iii. p. 556, Taf. 80, fig. 2; (Gould), B. of Gt. Brit. pl. 67; Newton, i. p. 427; Dresser, ii. p. 497, pl. 77 fig. 2: Saunders, p. 71; Lilford, iii. p. 62, pl. 31; Seebohm, Cat. B. Br. Mus. v. p. 54.

Pouillot-siffleur, French; *Folosa*, Portug.; *Lui-verde*, Ital.; *Wald-Laubvogol*, German; *Fluiter*, Dutch; *Grön-Lövsanger*, Dan.; *Grönsångara*, Swed.; *Vieheriäkerttu*, Finn.; *Beresovka, Tjukalka*, Russ.

♂ *ad.* (England). Upper parts olive-green tinged with sulphur-yellow, the crown and rump yellower; quills and tail slaty brown externally margined with yellow; forehead and superciliary streak bright sulphur-yellow; sides of head, chin, throat, breast, flanks and edge of wing sulphur-yellow; rest of the under parts white; bill, legs, and iris brown. Culmen 0·5, wing 3·0, tail 2·0, tarsus 0·72 inch. First primary short and narrow, 1·8 shorter than the second which is a trifle longer than the fifth, the third longest. The female is a trifle smaller than the male, and the young bird is rather yellower than the adult.

Hab. Europe from Southern Scandinavia to North Africa, and east to the Ural; in winter as far south as the Gold Coast; Great Britain and Scotland, but rare in Ireland.

Inhabits woods where the trees are high, either of deciduous trees or where conifers are intermixed with them, and frequents the tops of the trees or the scattered lower branches. It feeds on insects which it obtains amongst the foliage or sometimes on the ground, and frequently captures flies on the wing. It appears to prefer damp localities. Its call-note resembles that of the Willow-Wren, and its song which is clear sweet and consists of the syllable *chu* or *chit* uttered four or five times in succession followed by a characteristic shivering note which may be heard at a considerable distance. Its nest is domed, placed on the ground, very well concealed and constructed of dry grass-bents and a little moss, and lined with finer bents and a few hairs, very seldom with wool or feathers. The eggs, from 5 to 7 in number, are deposited in May or June, and are white minutely spotted and speckled with deep purplish red surface-markings and a few pale purplish grey shell-dots, and in some the markings are collected round the larger end. In size they average about 0·65 by 0·47.

138. Bonelli's Warbler.

PHYLLOSCOPUS BONELLII.

Phylloscopus bonellii (Vieill.), Nouv. Dict. xxviii. p. 91 (1819); Dresser, ii. p. 503, pl. 77, fig. 1, 78; Seebohm, Cat. B. Br. Mus. v. p. 59; *Sylvia nattereri*. Temm. Man. d'Orn. i. p. 227 (1820); (Gould), B. of Eur. ii. pl. 134; *Ph. montanus* (Brehm), Vög. Deutschl. p. 429 (1831); Naumann, xiii. p. 417, Taf. 369, fig. 4.

Becfin-Bonelli, French; *Lui-bianco*, Ital., *Berg-Laubvogel* German.

♂ *ad*. (Italy). Upper parts browner than *Ph. sibilatrix*, rump washed with sulphur-yellow; superciliary streak buffy yellow; under parts white, tinged with pale sulphur-yellow on the breast and flanks, edge of wing and axillaries bright sulphur-yellow. Culmen 0·42, wing 2·7, tail 2·0, tarsus 0·72 inch; first primary longer than in the Wood-Wren, 1·1 inch shorter than the second, which is a trifle longer than the sixth, the third and fourth nearly equal and longest. The female is a trifle smaller than the male.

Hab. Central and Southern Europe, from Portugal to Asia Minor; of occasional occurrence in Northern France; winters in North Africa as far south as Senegal.

In general habits it resembles the Wood-Wren, but affects elevated localities, and is often to be met with in woods on the southern slopes of hills. It inhabits the dense foliage of deciduous trees, and is strictly insectivorous, picking its food chiefly from off the leaves. Its call-note is a melancholy *hoied* or *hoiet*, and its song *iiiiii* and *wuit, wuit wuit, wuit.* Its nest is placed on the ground well concealed amongst the herbage, and is constructed of dry grass-bents and a little moss, lined with finer bents, never with hair or feathers. The eggs which are deposited late in May or early in June, from 4 to 6 in number, resemble those of the Wood-Wren but are smaller, and the spots are more profuse and somewhat browner in tinge of colour.

139. CHIFFCHAFF.

PHYLLOSCOPUS COLLYBITA.

Phylloscopus collybita (Vieill.), Nouv. Dict. xi. p. 235 (1817) ; Newton, i. p. 437 ; Dresser, ii. p. 485, pls. 75, fig. 1, 76, fig. 1 ; *Phyll. rufus*, (Bechst.), Orn. Taschenb. i. p. 188 (nec. Bodd.) ; (Hewitson), i. p. 139, pl. 36, fig. 4 ; (Naum.), iii. p. 581. Taf. 80, fig. 4 ; (Gould), B. of Gt. Brit. ii. pl. 66 ; Seebohm, Cat. B. Brit. Mus. v. p. 60 ; Saunders, p. 67 ; *P. minor*, Lilford, iii. p. 68, pl. 34.

Beefin veloce, French ; *Lui-piccolo*, Ital. ; *Almendrita*, Span.; *Weiden-Laubvogel*, German ; *Tjif-tjaf*, Dutch ; *Gran-sanger* Dan. and Norweg. ; *Gransångare*, Swed. ; *Tynnerilintu*, Finn. ; *Kusnetschik*, *Penotschkamalaya*, Russ.

♂ *ad.* (Asia Minor). In general colouration of plumage resembling *Ph. trochilus* but duller, the second primary is equal to the 7th, and the quills externally marginate to the 6th inclusive, the third and fourth quills longest ; legs dark brown much darker than in *Ph. trochilus*.

Hab. Europe from the Canaries where it is resident, to the valley of the Volga, north to within the Arctic circle ; winters in southern Europe, Asia Minor, Persia, and North Africa, as far south as Abyssinia.

In general habits it resembles the Willow-Wren but its movements are quicker and its flight rather swifter. It affects woods and groves both deciduous and conifer, and feeds on insects which it picks off the foliage and sometimes from off the ground, or will catch gnats or flies on the wing. It has been known to feed on small berries. Its alarm note resembles that of the Willow-Wren, but is slightly shriller and not so loud, and its song resembles the syllables *chiff-chaff*, *chiffy-chaffy*, or *cheep-cheep cheep-cheep.* Its nest is placed on the ground or but rarely a little above it, and is semi-domed, constructed of grass-bents, dry leaves, and moss and lined with plant-cotton hair and a profusion of feathers, and its eggs, 5 to 6 in number, are deposited late in May or in June, and are white, spotted and dotted with purplish red, and occasionally marked with a few violet-gray shell spots, and measure about 0·52 by 0·42 inch. In south-eastern Europe a small form (*Ph. brehmi* Homeyer) occurs, differing only in being somewhat smaller in size.

140. SIBERIAN CHIFFCHAFF.

PHYLLOSCOPUS TRISTIS.

Phylloscopus tristis, Blyth, J. As. S. Beng. xii. p. 966 (1843); (Gould), B. of Asia, iv. pl. 59; Dresser, ii. p. 477; Sabanäeff, Pozv. sredi Uralya, p. 89 (1874); Seebohm, Ibis, p. 10, 1879; id., Cat. B. Br. Mus. v. p. 63; Oates, F. Brit. Ind. Birds. i. p. 403.

Tyschkan-turgai, Kirghis.

♂ *ad.* (Ural). Resembles *Ph. collybita*, but is smaller, the upper parts are browner and the under parts whiter, and the bill and legs much darker. Culmen 0·44, wing 2·3, tail 1·92, tarsus 0·8 inch; first primary short, only 0·3 longer than the primary coverts, the 2nd 0·3 shorter than the 3rd and a trifle shorter than the 7th, the 3rd, 4th, and 5th nearly equal, the 4th longest. The female is rather smaller, and in the autumn both sexes are browner and duller than in the summer.

Hab. Eastern Europe as far west as the Petchora; northern Asia as far south as Kashmir, but how far east we do not know, except that it breeds in the valley of the Yenesei. In winter it occurs over the whole of India, from Sind to Dacca and south to about the latitude of Bombay.

It differs from the Chiffchaff in having a loud song though poor in quality, and its call note resembles the word *chi-vit*. It breeds in July, building a domed nest of grass, profusely lined with feathers, and lays 5 to 7 white eggs, finely spotted with reddish brown which measure about 0·56 by 0·40 inch.

141. PLAIN WILLOW-WARBLER.

PHYLLOSCOPUS NEGLECTUS.

Phylloscopus neglectus, Hume, Ibis, 1870, p. 143; Seebohm, Cat. B. Br. Mus. v. p. 131; Pleske, Orn. Ross. ii. p. 412, pl. 3, figs. 3, 4; Dresser, ix, p. 79, pl. 650, fig. 1; Oates, F. Brit. Ind. Birds, ii. p. 406; *P. lorenzi*, Severtzoff, fide Lorenz, Beitr. Orn. Nords. Kauk. p. 28, Taf. ii. fig. 2.

♂ *ad.* (Transcaspia). Upper parts earthy brown, upper tail-coverts paler; under parts white tinged with buff; superciliary streak pale buff; axillaries and under wing-coverts white tinged with buffy yellow; bill, legs, and iris dark brown. Culmen 0·37, wing 2·05, tail 1·65, tarsus 0·75 inch ; 1st primary long, 0·65 shorter than the 2nd, which is intermediate between the 8th and 9th. The female is a trifle smaller than the male.

Hab. Transcaspia and Turkestan during the summer, wintering in Southern Persia, Baluchistan, Sind, and the Punjab and Doab as far as Agra.

In its general habits it is very shy and cautious, frequenting close foliaged trees, and is therefore difficult to obtain. It breeds in Transcaspia and Turkestan but its nest and eggs are as yet unknown. In Sind a form differing only in being somewhat larger in size (*Ph. sindianus* Brooks, Str. Feath. viii p. 476) is said to be resident.

142. TICKELL'S WILLOW-WARBLER.

PHYLLOSCOPUS AFFINIS.

Phylloscopus affinis (Tickell), J.A.S. Beng. ii. p. 576 (1833) ; Seebohm, Cat. B. Br. Mus. v. p. 65 ; Pleske, Prjevalsky's Reisen, Vögel, ii. p. 115, Taf. 3, fig. 5 ; Oates, F. Brit. Ind. Birds, i. p. 401.

♂ *ad.* (Himalayas). Upper parts dull olive-brown ; wings and tail dark brown with olive-brown margins ; under parts deep yellow washed with olivaceous on the sides of the neck, breast, and body ; under wing-coverts and axillaries pale yellow ; lores and space behind the eye dark brown ; supercilium deep yellow ; legs greenish brown ; bill brown, lower mandible pale yellow ; iris brown. Culmen 0·44, wing 2·4, tail 1·9, tarsus 0·8 inch ; 1st primary about half the length of the 2nd which is equal to the 9th or 10th. The female is smaller than the male and the nestling is browner and has the under parts less regularly coloured.

Hab. The Himalayas as far west as Kashmir ; Kansu, the Chuanche, the southern Koko-nor and the Burchan Buda mountains and those on the Dy-tschu river ; winters in the plains of India. Prjevalsky says that it breeds in the low gorges of the Keria mountains in Mongolia, but its nest and eggs are unknown.

143. EVERSMANN'S WARBLER.

PHYLLOSCOPUS BOREALIS.

Phylloscopus borealis (Blasius), Naumannia, 1858, p. 313 ; (Naumann), xiii. p. 69, Taf. 375, fig. 1 ; Dresser, ii. p. 509, pl. 79 ; (Dybowski), J.f.O. 1872, p. 358 ; Seebohm, Cat. B. Br. Mus. v. p. 40 ; (Oates), F. Brit. Ind. Birds, i. p. 412 ; (Tacz.) F. O. Sib. O. p. 254 ; *P. sylvicultrix*, Swinhoe, Ibis. 1860, p. 53 ; *P. kennicotti*, Baird, Trans. Chic. Acad. Sc. i. p. 279, pl. xxx. fig. 2.

Talofka, Russ.

♂ *ad.* (Lake Baikal). Upper parts greyish brown tinged with pale green, the rump yellowish green ; wings crossed by two yellowish white bars ; superciliary stripe broad, yellowish ; under parts greyish white the breast and flanks greyer and washed with yellowish ; bill brown the lower mandible paler ; legs brown ; iris dark brown. Culmen 0·5, wing 2·7, tail 2·0, tarsus 0·8 inch ; 3rd and 4th primaries longest, 5th much shorter, bastard primary very small the exposed part measuring 0·32. In the autumn the under parts are pale yellow the breast and flanks washed with grey. Sexes alike.

Hab. Northern Norway east through northern and eastern Asia to Alaska, wintering in Burma, Tenasserim, and the islands of the Malay Archipelago; a migrant in Mongolia and China; has occurred in Heligoland.

Frequents non-evergreen woods in dry elevated localities generally in the vicinity of rivers or lakes, and feeds on insects especially mosquitoes, and obtains its food largely amongst the foliage in the treetops. Its call note is a single monotonous *dzit*, occasionally a double note *d-z zit*, and its song resembles the syllables *tsi, tsi, tsi, tsi* uttered in quick succession. It breeds in June, its nest being semi-domed, constructed of moss and dry grass, and lined with finer grass-bents, and is placed on the ground. The eggs 5 or 6 in number are rather larger than those of the Willow-Wren, white and profusely marked with small pale pink spots.

144. SWINHOE'S WILLOW-WARBLER.

PHYLLOSCOPUS XANTHODRYAS.

Phylloscopus xanthodryas, Swinh, P.Z.S. p. 296, 1863 ; David and Oust. Ois. Chine. p. 268 ; Seebohm, Cat. B. Br. Mus. v. p. 42 ; *Acanthopneuste lugubris*, (Blyth), Pleske, Prjevalsky's Reisen, Vögel, ii. p. 111.

♂ *ad.* Upper parts olivaceous, yellower on the rump ; under parts greenish yellow, greyer on the breast and flanks ; superciliary stripe well defined ; upper wing-bar obscure and lower bar well defined, axillaries and under wing-coverts pale yellow ; bill, legs, and iris brown. Culmen 0·54, wing 2·8, tail 2·0, tarsus 0·8 inch ; 1st primary 0·55 long, 2nd intermediate between the 5th and 6th, 3rd and 4th longest.

Hab. Kansu and the Upper Chuanche in Mongolia, and Japan; winters in Borneo. Abbé David says that it breeds at Moupin in May but its nest and eggs are not known.

In its habits it is wild and shy and keeps itself well concealed amongst the foliage. Its song is peculiar, consisting of three clear notes *mi-ré-do*, uttered softly. In the pairing season the males are extremely quarrelsome.

145. Bright Green Willow-Warbler.

PHYLLOSCOPUS NITIDUS.

Phylloscopus nitidus, Blyth, J.A.S. Beng. xii. p. 965 (1843); Pleske, Orn. Ross. ii. p. 172, pl. ii. fig. 2; Dresser, ix, p. 83, pl. 651, fig. 2; (Oates), F. Brit. Ind. Birds, i. p. 413.

♂ *ad.* (India). Crown and upper parts bright green; under parts and superciliary stripe sulphur-yellow; wing crossed by two distinct yellowish bands; bill brown, flesh coloured at base of lower mandible; legs plumbeous brown; iris dark brown. Culmen 0·5, wing 2·4, tail 1·9, tarsus 0·7 inch; 2nd primary shorter than than the 6th.

Hab. The Crimea, Transcaspia, the Caucasus, and the Himalayas, and has once occurred in Heligoland; winters in India as far south as Ceylon.

In general habits it resembles the other species of Willow-Warblers, frequenting woods and groves, feeding on insects which it obtains amongst the foliage, and is lively in its movements and not shy. Its call-note resembles that of *Motacilla flava*, but I do not find any description of its song. It breeds in the Caucasus but its nest and eggs appear to be unknown.

146. Greenish Willow-Warbler.

PHYLLOSCOPUS VIRIDANUS.

Phylloscopus viridanus, Blyth, J.A.S. Beng. xii. p. 967 (1843): Hume and Henders, Lahore to Yarkand, p. 220, pl. xix; Pleske, Orn. Ross. p. 176, Taf. ii. fig. 3; Dresser, ix. p. 87, pl. 651 fig. 1; Seebohm, Cat. B. Br. Mus. v. p. 44; (Oates), F. Brit. Ind. Birds. i. p. 414; Lilford, iii. p. 66, pl. 33; *P. middendorffii*, Meves, Öfv. K. Vet. Ak. Förh. 1871, p. 758, Taf. xv. fig. 1.

ad. (India). Differs from *P. nitidus* in being darker and more olivaceous on the upper parts, the eye-streak is buffy yellow, the wing is crossed by a single dull white band and the under parts are white washed with pale greenish buff. In the autumn the upper parts are greener and the under parts more yellow. Culmen 0·5, wing 2·35, tail 1·75, tarsus 0·75 inch; 2nd primary intermediate between the 7th and 8th, the 3rd, 4th, and 5th longest.

Hab. The Ural, the Altai, the Himalayas, Turkestan, Yarkand, and Gilgit, wintering in India as far east as Calcutta, and as far south as Ceylon; has been obtained thrice as far west as Heligoland and once in England.

In its habits it resembles *P. nitidus* but is often seen amongst bushes. Its call note is a short *psi, psi,* and its song is said to be a very loud and strong trill. Its nest is domed and is placed on the ground, but its eggs are unknown.

147. PALE-LEGGED WILLOW-WARBLER.

PHYLLOSCOPUS TENELLIPES.

Phylloscopus tenellipes, Swinhoe, Ibis. p. 53, 1860; David and Oust. Ois. Chine, p. 269; Seebohm, Cat. B. Br. Mus. v. p. 46; Oates, B. of Burma, i. p. 81, (id.) F. Brit. Ind. Birds, i. p. 416.

ad. (Burma). Upper parts olive-brown washed with russet on the rump; under parts white washed with greyish buff on the breast, flanks, and under tail-coverts; eye-stripe greyish white, and wings crossed with two buffy white bars; upper mandible dark brown, lower mandible pale; legs pale flesh colour. Culmen 0·5, wing 2·45, tail 2·0, tarsus 0·72 inch; bastard primary 0·5, 2nd equal to the 7th, the 3rd, 4th, and 5th longest. In the summer the plumage is greyer and the wing-bars less distinct, and in the winter the plumage is buffer in tinge.

Hab. Japan, and passes through China on migration, wintering in Burma.

I find nothing on record respecting the habits of this bird, which are probably similar to those of its congeners, and its breeding habits are unknown.

148. MIDDENDORFF'S WILLOW-WARBLER.

PHYLLOSCOPUS PLUMBEITARSUS.

Phylloscopus plumbeitarsus, Swinhoe, Ibis. p. 330 1861; Seebohm, Cat. B. Br. Mus. v. p. 45; *P. intermedia*, Severtz. Turk. Jevot. p. 125.

ad. (Turkestan). Differs from *P. viridanus* in having two wing-bars. Culmen 0·5, wing 2·2, tail 1·7, tarsus 0·7 inch; 1st primary 0·5 to 0·7 long, the 2nd intermediate between the 7th and 8th or equal to the 8th. The present is a somewhat doubtful species differing but little from *P. viridanus.*

Hab. Asia from Turkestan to southern Siberia, wintering in Cochin China and Burma.

In its habits it is arboreal, frequenting the dense foliage of trees, feeding on insects which are found on the leaves. Its call-note is double and sibilant. Its nest and eggs are as yet unknown.

149. LARGE-BILLED WILLOW-WARBLER.

PHYLLOSCOPUS MAGNIROSTRIS.

Phylloscopus magnirostris, Blyth, J.A.S. Beng. xii. p. 966 (1843) ; Legge, B. of Ceylon, p. 553 ; Seebohm, Cat. B. Br. Mus. v. p. 47 ; Pleske, Prjevalsky's Reisen, Vögel, ii. p. 110 ; (Oates), F. Brit. Ind. Birds, i. p. 415.

ad. (Kashmir). Upper parts olive-green, head darker ; under parts pale yellow washed with grey on the breast and flanks ; a well defined eye-streak and two bars on the wings yellowish white ; axillaries and under wing-coverts greyish yellow ; bill horn-brown ; legs flesh colour ; iris earth-brown. Culmen 0·55, wing 2·7, tail 2·2, tarsus 0·75 inch ; 1st primary large 0·7 long, the 2nd intermediate between the 7th and 8th.

Hab. The Himalayas and as far east as Kan-su, wintering in India as far south as Ceylon and the Andaman islands, and east to Shillong ; occurs though rarely, in Burma.

It frequents wooded cliffs or steep rocky banks above water, and is shy and unobtrusive. Its song is said to be shrill, peculiarly melancholy but of singular sweetness, and above a roaring torrent it appears in its element and sings most vigorously. It is known to breed in Kashmir, but its nest and eggs are unknown.

150. BLYTH'S WILLOW-WARBLER.

PHYLLOSCOPUS LUGUBRIS.

Phylloscopus lugubris, (Blyth), Ann. Nat. Hist. Ser. i. xii. p. 98 (1843) ; Seebohm, Cat. B. Br. Mus. v. p. 48 ; Pleske, Prjevalsky's Reisen, Vögel, ii. p. 111 ; (Oates), F. Brit. Ind. Birds, i. p. 417.

♂ *ad.* (Himalayas). Resembles *P. magnirostris* but is darker and smaller and has the 2nd primary intermediate between the 9th and 10th, the 1st primary being very long, occasionally 0·8 in length, the 4th and 5th longest. Culmen 0·5, wing 2·6, tail 2·1, tarsus 0·75 inch.

Hab. Sikhim in summer and probably in other parts of the Himalayas, wintering in Bengal, Assam, and central Tenasserim, and has been recorded from the Philippines ; eastward, it was obtained by Colonel Prjevalsky in Mongolia, on the upper waters of the Chuanche in Kan-su where it is he says, common.

In habits it does not differ from its allies. Its nest and eggs are not known.

151. YELLOW-BROWED WARBLER.

PHYLLOSCOPUS SUPERCILIOSUS.

Phylloscopus superciliosus (Gmel.) Syst. Nat. i. p. 975 (1788) ; Naumann, xiii. pt. ii. p. 74, Taf. 378, figs. 2, 3 ; Gould, B. of Gt. Brit. ii. p. 68 ; Newton, i. p, 443 ; Dresser, ii. p. 469, pl. 74 ; Seebohm, Cat. B. Br. Mus. v. p. 68 ; (Oates), F. Brit. Ind. Birds, i. p. 409 ; Saunders, p. 61 ; Lilford, iii. p. 70, pl. 35 ; *Ph. modestus*, auctt. nec. Gould.

Sarnitschka, Chardshan, Jakutsk.

♂ *ad.* (Siberia). Upper parts olive-green ; under parts yellowish white ; a very indistinct coronal stripe, often absent, greenish grey ; superciliary stripe greenish yellow, well defined ; wings with two distinct bars ; axillaries and under wing-coverts yellow ; bill brown, yellowish white at base of lower mandible ; legs brownish flesh ; iris brown. Culmen 0·45, wing 2·1, tail 1·7, tarsus 0·7 inch ; 1st primary short but 0·25 longer than the wing-coverts and 0·9 shorter than the 2nd which is intermediate between 6th and 7th, 3rd and 4th equal and longest. In the autumn the plumage is greener, and in the summer greyer.

Hab. Siberia from the Ob to the sea of Ochotsk, and from the Tschuktchi peninsula through Central Asia to the Himalayas, wintering on the plains of India, Burma, and south China. On passage it occurs west of the Ural, and has been met with on several occasions in Heligoland, Germany, Austria, and Great Britain.

Frequents groves, bush covered localities and gardens, and is not often seen in the true forest. Its call-note resembles the syllables *tiss-yip* and the song is a loud double chirp, which can scarcely be called a song but which is continually uttered. The nest is semi-domed, constructed of grass and moss and lined with finer grass, and lined with hair, and is placed on the ground or in a low bush close to the ground. The eggs 5 or 6 in number are white, with reddish brown surface-spots, and a few purplish grey shell-markings, the spots being frequently collected round the larger end. In size they measure about 0·6 by 0·45 inch. The Himalayan bird has been described as distinct (*P. humei* Brooks) but after a careful examination of a series I cannot endorse this view.

152. PALLAS' WILLOW-WARBLER.

PHYLLOSCOPUS PROREGULUS.

Phylloscopus proregulus (Pall.) Zoogr. Ross. As. i. p. 499 (1811); Hume and Henderson, Lahore to Yark. p. 220; Tacz. J.f.O. 1873, Taf. i. fig. 10 (eggs); Dresser, ix. p. 73, pl. 650, fig. 1; Saunders, p. 63; Lilford, iii, p. 72, pl. 36; Seebohm, Cat. B. Br. Mus. v. p. 71; (Oates), F. Brit. Ind. Birds, i. p. 408; *P. modestus*, (Gould), B. of E. ii. pl. 149; *Ph. chloronotus*, (Hodgs.) MS. Drawings of B. of Nepal, Passeres. pl. 57, fig. 5.

♂ *ad.* (Siberia). Upper parts olive-green, the head darker; rump yellow; under parts white, washed with grey on the flanks; mesial and superciliary stripes sulphur-yellow, well defined; wings crossed by two distinct yellowish white bands; bill brown, basal portion of lower mandible yellowish; legs greenish brown, and dark brown; 1st primary 0·7, shorter than the 2nd, which is equal to or a trifle longer than the 8th, the 4th longest. Culmen 0·4, wing 2·1, tail, 1·5, tarsus 0·67 inch. In the summer it is rather paler and the alar bars less clearly defined.

Hab. Asia from the Lena to Lake Baikal and south to the Himalayas, wintering in India, Burma, and south China; occurs regularly on passage on the western slopes of the Ural, and has occurred once in Heligoland and once in England.

Frequents pine and birch woods and bush covered valleys, and in its general habits has much affinity with the Goldcrest. Its call-note is a shrill prolonged *tsii*, and its song is melodious and varied and very loud for so small a bird. Its nest is placed on the branch of a tree near the stem, is oven-shaped, constructed of grass-bents and moss and lined with feathers and horse or cattle hair and its eggs which are deposited in May or June are white dotted and spotted with violet, ash-grey, and red, the spots being frequently collected round the larger end, and measure 14 by 11 to 15 by 10·5 millimetres (0·59 by 0·41 inch).

The form which breeds in the Himalayas has been separated specifically by Gätke (*Phylloscopus newtoni*) but after a careful comparison of specimens I fail to see even subspecific differences that are constant.

153. TEMMINCK'S WILLOW-WARBLER.

PHYLLOSCOPUS CORONATUS.

Phylloscopus coronatus, (Temm. and Schlegel.) Faun. Jap. Aves. p. 48, pl. xviii. (1847); David and Oust. Ois. Chine, p. 269; Seebohm, Cat. B. Br. Mus. v. p. 49; (Oates), F. Brit. Ind. Birds, i. p. 417.

ad. (Japan). Upper parts greyish olive green, the head darker; mesial stripe irregular and pale greyish yellow; superciliary stripe to the nape clearly defined, yellowish white; two bars across the wing; under parts white tinged with yellow on the breast and flanks; lower tail-coverts yellow; upper mandible brown, lower mandible yellowish; legs plumbeous; iris brown. Culmen 0·52, wing 2·4, tail 2·1, tarsus 0·7 inch; 1st primary about 0·5 long, 2nd intermediate between 6th and 7th. In the winter the plumage is brighter and yellower.

Hab. South-easten Siberia, Corea, and Japan in summer, wintering in southern Pegu, Tenasserim, Java, and Malacca. It has once occurred in Heligoland but has not been recorded from elsewhere in Europe.

According to Godlevski it resembles *P. plumbeitarsus* in its habits and frequents the foliage of trees and groves, but its call-note and song are different, the former resembling the syllables *fititi.* Its song is low but melodious. I find nothing on record respecting the nidification except that, like *R. occipitalis,* its eggs are pure white, unspotted.

A slightly different form which lacks the coronal band (*Acanthopneuste ijimæ* Stejn. Proc. Nat. Mus. XV. p. 372–1892) inhabits the Idzu Islands, Japan.

Dr. Julius von Madarasz has also described under the name of *Acanthopneuste puella* a form from Vladivostock, which also lacks the coronal band of which I have seen the type which is he assures me separable from *A. ijimæ.*

154. LARGE-CROWNED WILLOW-WARBLER.

PHYLLOSCOPUS OCCIPITALIS.

Phylloscopus occipitalis (Jerdon) *fide* Blyth, J. A. Soc. Beng. xiv. p. 593 (1845); Seebohm, Cat. B. Br. Mus. v. p. 50; Pleske Orn. Ross. ii. p. 196, pl. 11, figs. 6, 7; (Oates), F. Brit. Ind. Birds, i. p. 418.

♂ *ad.* (Himalayas). Resembles *P. coronatus,* but has the under parts of one uniform tint of colour, and the second primary is intermediate between the seventh and eighth; bill horn-brown; legs pale brown; iris brown. Gape 0·6, wing 2·6, tail 2·1, tarsus 0·7 inch. In the winter-plumage it is rather yellower.

Hab. The more elevated portions of the Himalayas, breeding in Kashmir and Turkestan, wintering from the foot of the Himalayas to about the latitude of Belgaum and Nellore, and from Sind to the longitude of Calcutta, and sparingly up the valley of Assam and in North Cachar.

It breeds from May to July and places its nest in holes, amongst the roots of trees, in hollow tree-stumps or amongst stones. The nest is loosely constructed of green moss and small dead leaves, lined with fine grass, wool, hair, and feathers, and is not domed. The eggs, from 4 to 5 in number, are pure white and average in size 0·65 by 0·50. The nest is easy to find as the birds are very noisy and demonstrative when anyone approaches it.

155. Brooks's Willow-Warbler.

PHYLLOSCOPUS SUBVIRIDIS.

Phylloscopus subviridis (Brooks), P. A. Soc. Beng. 1872, p. 148; Seebohm, Cat. B. Br. Mus. v. p. 74, pl. iv. fig. 2; Oates, F. Brit. Ind. Birds, i. p. 409.

♂ *ad.* (India). Upper parts clear greenish yellow; two distinct bars across the wing; mesial and superciliary stripes, sides of the head and under parts yellow, tinged with ochreous; bill greenish brown; legs greyish green; iris blackish. Culmen 0·45, wing 2·35, tail 1·85, tarsus 0·7 inch; first primary about 0·55 long, the second intermediate between the eighth and ninth.

Hab. Afghanistan and Kashmir in summer, wintering in the North-western Provinces of India and the Punjab as far east as Allahabad.

Col. Biddulph says that it breeds in Gilgit in the Nulter valley at 10,000 feet in July, and a specimen shot by Major Wardlaw Ramsay at Bian Kheyl in Afghanistan in May contained eggs nearly ready to lay, but its nest does not appear to have been yet discovered.

HYPOLAIS, Brehm, 1828.

156. Icterine Warbler.

HYPOLAIS ICTERINA.

Hypolais icterina (Vieill.), N. Dict. xi. p. 194 (1817); Newton, i. p. 360; Dresser, ii. p. 521, pl. 81; Saunders, p. 75; Lilford, iii. p. 32, pl. 16; Seebohm, Cat. B. Br. Mus. v. p. 77; *S. hypolais* Naumann, iii. p. 540, Taf. 80, fig. 1; Gould, B. of E. ii. pl. 133; (id.) B. of Gt. Brit. ii. pl. 71.

Becfin à poitrine jaune, French; *Gelber Spottvogel*, German; *Spotvogel*, Dutch; *Gulbuget Sanger*,—Dan.; *Bastardnattergal*, Norweg.; *Bastardnäktergal*, Swed.; *Kultarintakerttu*, Finn.; *Ljcsnaja*, *Malinovka*, Russ.; *Zaganiacz*, Polish.

♂ *ad.* Upper parts greyish olive ; under parts lemon-yellow ; wings and tail dull brown externally paler margined ; lores and a streak over the eye yellow ; auriculars dull brownish yellow ; bill brown above, the lower mandible yellowish ; legs dull slate ; iris brown. Culmen 0·68, width of mandible at base 0·3, wing 3·1, tail 2·25, tarsus 0·8 inch ; first primary scarcely as long as the coverts, second nearly equal to the fourth, the third slightly longer. The female is a little paler than the male, and the young bird has the upper parts darker and browner and the wing-feathers broadly margined with dull buff.

Hab. Central and northern Europe, as far north as Jemtland in Sweden, and the borders of Nordland in Norway, as far east as the Ural, and south to the Crimea and Caucasus, wintering in South Africa; a very rare straggler to Great Britain.

In many respects this species has considerable affinity with the Aquatic Warblers, between which and the *Phylloscopi* it forms a link, differing appreciably from both in its nest and eggs.

Frequents woods, gardens, etc., in the lowlands, both in damp and dry localities, is shy and secretive in its habits, and even when singing generally hides amongst the dense foliage. Its song is rich and varied, somewhat Thrush-like, and it is an excellent mimic, imitating with facility the notes of many other species. It breeds in May or early in June placing its nest in the fork of a bush or low tree. The nest is an exceedingly neat and artistic structure, cup-shaped, made of fine rootlets, straws, a little wool or moss, fine shreds of bark, &c., worked together with spiders' webs, and lined with fine bents, rootlets, and hair, and the eggs 4 or 5, seldom 6 in number, are rose-pink, sometimes with a faint brownish tinge, speckled with dark purplish brown dots and spots, and measure from 0·75 by 0·57 to 0·78 by 0·56.

157. MELODIOUS WARBLER.

HYPOLAIS POLYGLOTTA.

Hypolais polyglotta (Vieill.), N. Dict. xi. p. 200 (1817) ; Dresser, ii. p. 517, pl. 80, fig. 2 ; Seebohm, Cat. B. Brit. Mus. v. p. 79 ; Saunders, p. 77.

Almendrita de verano, Span. ; *Folosa*, Portug.

♂ *ad.* (Spain). Differs from *H. icterina* in being smaller, somewhat duller in colour, with a different wing-formula. Culmen 0·6, width of mandible at base 0·22, wing 2·5, tail 2·05, tarsus 0·85 inch ; first primary small, but 0·18 longer than the coverts, second rather shorter than the sixth, third and fourth equal and longest.

Hab. Western Europe and N. W. Africa, as far east as Italy and as far north as Southern France, rarely occurring in Northern France and Belgium, and has strayed at least once as far as England; winters in Africa at least as far south as Senegambia.

In habits, song, and nidification, it does not differ appreciably from *H. icterina*, but breeds rather later, usually late in June, and its eggs are not only spotted but slightly streaked with deep purplish brown, and smaller, measuring from 0·57 by 0·50 to 0·69 by 0·55.

158. Olive-tree Warbler.

HYPOLAIS OLIVETORUM.

Hypolais olivetorum (Strickl.), in Gould's B. of E. ii. pl. 107 (1837); Dresser, ii. p. 527, pl. 82, fig. 2; Seebohm, Cat. B. Br. Mus. v. p. 79.

♂ *ad.* (Asia Minor). Upper parts dull brownish grey tinged with olivaceous; wings and tail darker and margined with dull white; edge of eyelids and an indistinct superciliary stripe white; under parts white, the breast washed with pale yellowish buff, and the flanks with brownish buff; beak horn-brown, lower mandible yellowish at base; legs dull plumbeous; iris dark brown. Culmen 0·73, wing 3·4, tail 2·8, tarsus 0·95 inch; first primary very short, only 1·2 long, second and fourth about equal, third 0·1 longer than the second, and longest. The female and young are a trifle paler and duller, and in the winter the under parts are rather greyer in both sexes.

Hab. Greece, Asia Minor, Palestine, and Algeria; of doubtful occurrence at Valencia in Spain; winters in Africa, how far south we do not know, but it has been met with in Abyssinia.

It frequents the olive groves in the valleys, and is very shy and unobtrusive in its habits, seeking its food, which, like its allies', consists chiefly of insects, amongst the dense foliage. Its song is loud and of fairly good quality, resembling that of the Sedge-Warbler in loudness and rapidity but is superior in tone, and though loud, rich, and clear, is somewhat monotonous. Its nest, which is placed in the fork of an olive-tree, is neatly constructed of thistle-down and fine grass-bents, finished off at the top with cobwebs and other similar material, cup-shaped, and lined with a few rootlets and horsehairs, and the eggs which are deposited in June, usually 4 in number, are larger than any other of the genus, pale reddish grey in ground colour, much paler than those of *H. polyglotta*, but not so grey as those of *H. pallida*. The spots are rather larger and have the same tendency to run into streaks, the shell-markings are scarcely noticeable, and the ground-colour is opaque. In size they average about 0·8 by 0·58. Sometimes, though rarely, the spots have a tendency to form a zone round the larger end.

159. WESTERN OLIVACEOUS WARBLER.

HYPOLAIS OPACA.

Hypolais opaca (Licht.) in Cat. Mus. Hein. i. p. 36 (1850) ; Dresser, ii. p. 531, pl. 82, fig. 1 ; Seebohm, Cat. B. Br. Mus. v. p. 83 ; *H. cinerascens* (De Selys) *fide* Newton, Blas. List. B. Eur. p. 11 (1862).

Pinchahigos, Spanish.

♂ *ad.* (Spain). Differs from *H. pallida* in being larger, with a larger first primary and a broader bill. Culmen 0·72, breadth of lower mandible at base 0·3, wing 2·8, tail 2·55, tarsus 0·9 inch ; first primary extending 0·35 beyond the coverts, and 1·1 shorter than the second ; second 0·25 shorter than the third, the third and fourth equal.

Hab. Southern Spain and Algeria, wintering in West Africa as far south as Senegambia.

Frequents gardens and orchards, is very active and vivacious in its habits, tame and fearless. It affects tall trees in preference to bushes, and feeds on insects, which it captures on the wing with ease. Its song is clear and loud and usually uttered from a branch. Its call-note resembles the syllables *tack, tack.* Its nest, which is placed in the fork of a branch at some distance from the ground, is larger even than that of *H. olivetorum*, and is neatly built of dry grass-bents and rootlets, and lined with cotton and thistle-down. The eggs 4 or 5 in number are deposited in June, and resemble those of *H. pallida*, but are rather more boldly marked, and larger, measuring about 0·78 by 0·58.

160. OLIVACEOUS WARBLER.

HYPOLAIS PALLIDA.

Hypolais pallida, (Hempr. and Ehr.), Symb. Phys. fol. *bb*, (1828) ; Dresser, ii. p. 537, pl. 80, fig. 1 ; Seebohm, Cat. B. Br. Mus. v. p. 82 ; (Oates), F. Brit. Ind. Birds, i. p. 392 ; *H. elaica*, (Lindermayer), Isis. p. 342, 1843.

♂ *ad.* (Egypt). Upper parts dull pale olivaceous brown paler on the rump ; wings and tail dark brown with paler margins ; an indistinct yellowish stripe from the base of the bill over the eye ; under parts buffy white, throat and middle of abdomen nearly pure white, flanks washed with pale brown; bill horn-brown, lower mandible yellowish at base; legs pale horn-brown; iris dark brown. Culmen 0·62, under mandible 0·22, broad at base, wing 2·63, tail 2·2, tarsus 0·83 inch; first primary extending 0·27 beyond the coverts, and 1·15 shorter than the 2nd, second 0·2 shorter than the 3rd, third and fourth equal. The female and young do not appreciably differ from the male.

Hab. South-eastern Europe, Western Asia and North-eastern Africa in summer, occurring rarely as far west as Italy, extending east through Asia Minor and Transcaspia to Persia, Turkestan, and Bokhara, and south as far as Abyssinia, wintering further south in Africa.

Restless uneasy and shy this species is often seen but is difficult to obtain as it creeps about amongst the foliage with the greatest ease. It frequents groves, orchards, and bush-covered places both in the valleys, in damp localities and also to an altitude of 6,000 feet. It is an industrious songster, and its song has been compared to that of *H. icterina* and also to that of the White-throat, but is louder and not so hurriedly uttered. Its nest is usually placed in the fork of a branch of a low tree, well concealed, and is neatly constructed of dry plant- and grass-stems, moss, and fine rootlets, intermixed with brown thistle-down and lined with fine rootlets, down, and occasionally a horsehair or two. The eggs 4 or 5 in number are deposited in June, and are pinky grey with dark spots and dots and an occasional dark streak. Occasionally but rarely the spots are collected round the larger end; in size they average about 0·67 by 0·51.

161. Upcher's Warbler.

HYPOLAIS LANGUIDA.

Hypolais languida, (Hempr. and Ehr.) Symb, Phys. fol. *bb.* (1828); Dresser, ii. p. 535, pl. 83; Seebohm, Cat. B. Br. Mus. v. p. 80; *H. upcheri*, Tristram, P.Z.S. 1864, p. 438.

♂ *ad.* (Baluchistan). Resembles *H. pallida* but is somewhat larger, has the bill narrower and more slender, the first primary much shorter and narrower, and is greyer in tinge of colour. Culmen 0·75, wing 3·1, tail 2·7, tarsus 0·9 inch; the first primary scarcely as long as the coverts, 1·8 shorter than the second, second 0·2 shorter than the 3rd, third and fourth about equal.

Hab. Palestine, Syria, South-eastern Persia, Afghanistan, Turkestan, Bokhara, Baluchistan, Egypt, and Abyssinia.

It is said to be restless and active in its habits, and to resemble *Acrocephalus dumetorum* living amongst thick bushes, and hunting about the branches for insects, and is less numerous than *H. pallida* except in the more open and semi-desert country. It frequents gardens, comparatively open bush-covered plains and wooded ravines up to an altitude of 5,500 feet. Its call-note is a sharp cry like *tschick-tschick* unlike that of *H. pallida*, but I do not find any description of its song. Its nest is placed in a low tree or bush, not more than a yard or two from the ground, is very neat, cup-shaped, constructed of grass-bents, spiders' webs and plant-down, and the eggs, 4 or 5 in number, are deposited in June, and are pinkish white, with small scattered spots and irregular streaks of dark chocolate brown and measure about 0·75 by 0·53.

162. SYKES'S WARBLER.

HYPOLAIS RAMA.

Hypolais ráma, (Sykes), P.Z.S. 1832, p. 89; Dresser, P.Z.S. 1874, pl. lxxix. (nest and eggs); id. ix p. 91; Seebohm, Cat. B. Br. Mus. v. p. 84; (Oates), F. Brit. Ind. Birds, i. p. 391; *H. obsoleta*, (Severtz.) Turk. Jevot. pp. 66, 129 (1873); Seebohm, Cat. B. Br. Mus. v. p. 86; Oates, tom. cit. p. 393.

Koktalghu, Turki; *Tchourlentki*, Tekki, in Transcaspia.

♂ *ad.* (Transcaspia). Differs from *H. pallida* in being smaller darker in colour both above and below, and has a longer first and a shorter second primary. Culmen 0·57, wing 2·4, tail 2·15, tarsus 0·82 inch; first primary 0·35 longer than the coverts, the second intermediate between the 7th and 8th or the 8th and 9th. In the autumn the under parts are washed with buffish brown.

Hab. Transcaspia, Turkestan, south-west Persia, Kashmir, Sind, and south-eastern Mongolia, wintering throughout the whole peninsula of India, south to the Nilgiris and east to Dinapore and Lohardugga.

In general habits is said to resemble *H. caligata* but its note differs. It frequents bush-covered localities and tamarisk-thickets, especially in or near damp localities, and is much commoner on the plains than in the hills. Its song is somewhat feeble but agreeable, and is generally uttered from the top branch of a bush. It breeds from the latter part of April to the early part of June and places its nest in a low bush near the ground; constructing it of fine tamarisk-twigs, plant-stems, grass-bents and vegetable down, interwoven with spiders' webs and cocoons, and lined with vegetable down, camels' wool, and occasionally a few feathers. The eggs 4 or 5 in number, are dull French white with pale purplish grey underlying shell-spots and blackish brown surface-spots, irrregular lines and scratches, which are often collected and form a wreath round the larger end. In size they average about 0·61 by 0·49.

163. BOOTED WARBLER.

HYPOLAIS CALIGATA.

Hypolais caligata, (Licht.) in Eversm. Reise nach Buchara, p. 128 (1823); Dresser, ii. p. 541, pl. 84; Seebohm, Cat. B. Br. Mus. v. p. 85; Pleske, Orn. Ross. ii. p. 367; (Oates), F. Brit. Ind. Birds, p. 393; *S. scita*, Eversm. Add. Pall. Zoogr. Ross. As. fasc. iii. p. 12 (1842); *S. salicaria*, Naum. Vög. Deutschl. Anhang p. 78, Taf. 375, fig. 2.

♂ *ad.* (Turkestan). Differs from *H. rama* in being smaller, with a shorter first and longer second primary and a shorter tail. Culmen 0·53, wing 2·35, tail 2·00, tarsus 0·85 inch; first primary nearly 0·3 longer than the coverts and 1·05 shorter than the second, which is 0·18 shorter than the third, which is the longest.

Hab. Russia, from Moscow in the west to the valley of Yenesei in the east, north to about 61°; the Altai, Turkestan, Bokhara, Transcaspia, and Kashmir; wintering in northern and central India, south to Belgaum, east to Mudhupur and west to Karáchi and Hydrabad.

It has occurred as far west as Heligoland.

In general habits it differs but little from *H. rama* and like that species frequents bush-covered localities near water, but is also found amongst bushes on the dry steppes. It does not go far in the mountains but affects the plains. Its song is said to have affinity with that of *H. icterina*, and also with the song of the Sedge-Warbler, and it sings both during the day and at night. It breeds in May and places its nest, which is cup-shaped and neatly constructed, either in a low bush above the ground or on the ground amongst grass, constructing it of fine grass-bents and plant-stems, fine rushes, hair, and a few feathers, and lining it with fine rootlets, hair, and wool, and sometimes a little ducks-down. The eggs 4 to 6 in number are rose coloured or salmon colour, marked with a few purplish underlying shell markings, and blackish surface spots and dashes, which are rather more numerous at the larger end; in size they measure about 0·58 by 0·47.

AEDON, Boie, 1826.

164. Rufous Warbler.

AEDON GALACTODES.

Aedon galactodes, (Temm.) Man. d'Orn. i. p. 182 (1820); (Gould), B. of E. ii. pl. 112; id. B. of Gt. Brit. ii. pl. 53; Newton, i. p. 355; Dresser, ii. p. 547, pl. 85, fig. 1; (Seebohm), Cat. B. Br. Mus. v. p. 34; Saunders, p. 73; Lilford iii. p. 30, pl. 15.

Rouxinol do matto, Portug.; *Alzacola*, Span.; *Rusignuolo africano*, Ital.

♂ *ad* (Spain). Upper parts dull brownish rufous, the rump and upper tail-coverts nearly fox-red; quills dark brown margined with rufous, the inner ones tipped with dull white, the wing-coverts margined with pale sandy brown; tail rounded, red, the central feathers foxy red throughout, the rest tipped with white, which broadens towards the outside ones, and with a sub-apical black patch; eye-stripe buffy white; lores and a patch behind the eye blackish brown; under parts greyish white, sides of neck and flanks washed with pale brown; bill dull brown, base of lower mandible yellowish; legs pale brown; iris dark brown. Culmen 0·72, wing 3·5, tail 2·12 tarsus 1·0 inch; first primary slightly shorter than the coverts, second 0·2 shorter than the 3rd, third, fourth, and fifth nearly equal and longest. The female and young do not differ from the male except that the latter have the quills and wing-coverts margined with pale fulvous.

Hab. Spain, Portugal, Palestine, and North Africa as far as Abyssinia where it is resident; winters in Africa as far south as the Gold Coast; has occurred in Italy and twice in Great Britain.

Frequents dry, arid, localities, vineyards, reed thickets, gardens, and prefers shady and dense underwood, and is usually seen on the ground or not far above it, and is as a rule shy. When alighting on a twig it spreads its tail showing its peculiar markings, and on the ground it runs briskly. Its song is soft, low, and mellifluous, and is usually uttered from the top of a bush or low tree. It feeds on insects which it generally obtains on the ground. Its nest is placed in the fork or branch of a low tree or bush from one to six feet from the ground, without any attempt at concealment, and it has been found on the ground amongst the roots of a tree. It is constructed of tamarisk-shoots, grass, rootlets, &c., lined with wool, hair, or feathers, and a small piece of serpent's skin is usually placed at the bottom of the cup. The eggs, usually 4 in number, are delicate French white, sometimes with a faint blue green tinge, marked with pale underlying greyish brown shell-markings, and small dark brown surface-spots and average in size about 0·88 by 0·65. They closely resemble those of *Anthus campestris.*

165. Grey-backed Warbler.

AEDON FAMILIARIS.

Aedon familiaris, (Ménétr.) Cat. Rais. p. 32 (1832) ; Dresser, ii, p. 553, pl. 85, fig. 2 ; Pleske, Orn. Ross. ii. p. 148 ; (Seebohm), Cat. B. Br. Mus. v. p. 36 ; (Oates), F. Brit. Ind. Birds, i. p. 351.

Kamyschevy-Solovei, Russ. ; *Rusignuolo levantino*, Ital.

♂ *ad.* (Asia Minor). Differs from *Aedon galactodes* in having the upper parts much greyer, being greyish brown, not rufous brown, the central tail-feathers dull dark greyish brown, the under parts paler and greyer, and the first primary rather shorter. Culmen 0·75, wing 3·4, tail 2·75, tarsus 1·0 inch ; first primary fully 0·1 less than the coverts and the second 0·5 less than the third.

Hab. Greece, Asia Minor, the Caucasus, Persia, Turkestan, Afghanistan, and Baluchistan, and winters in Sind and Rajpootana; has strayed as far west as Heligoland, and occurs though rarely in Italy.

In general habits it resembles *A. galactodes*, frequents the same localities; and its song differs but little; its call-note is said to be *tack, tack.* It breeds in May or June, placing its nest in a low tree near the trunk, not high above the ground and occasionally on the ground itself. It is carelessly built of plant-stems, and lined with wool, cotton, feathers, and always contains a piece of serpent's skin. The eggs 4 to 6, usually 5 in number, closely resemble those of *A. galactodes* but are paler, and are subject to considerable variation.

ACROCEPHALUS, Naumann, 1811.

166. Paddy-field Warbler.

ACROCEPHALUS AGRICOLA.

Acrocephalus agricola, Jerdon, Madr. Journ. xiii. pt. 2. p. 131 (1844) ; Dresser, ii. p. 559, pl. 86, fig. 1 ; Seebohm, Cat. B. Br. Mus. v. p. 105 : Pleske, Orn. Ross. ii. p. 552 ; Oates, F. Brit. Ind. Birds, i. p. 359.

♂ *ad* (Ural). Upper parts pale warm rufous brown, darker on the head and brighter on the rump; wings and tail with fulvous brown margins; a light superciliary streak; under parts white, flanks and lower abdomen washed with buff; bill above dark brown, below fleshy yellow; legs pinkish brown; iris yellow, eyelids plumbeous. Culmen 0·45, wing 2·2, tail 2·4, tarsus 0·9 inch; wings short and rounded; first primary narrow, about 0·15 longer than the coverts, second intermediate between 6th and 7th, third and 4th equal and longest; tail much rounded. The female does not differ, but the young bird has the upper parts brighter and the under parts washed with ochreous buff.

Hab. The western Ural, the Crimea, Transcaspia, the Altai, Turkestan, the Himalayas from Kashmir to Nepal, wintering in the plains of India.

It frequents damp localities, reed-beds, the borders of small rivers and streams, gardens, and grassy places, but I find no description of its call-note or song. It breeds in damp localities and builds a cup-shaped nest, resembling that of *A. arundinaceus,* attached to reeds, and lined with fine plant-strips. The eggs resemble those of *A. streperus* but are smaller, averaging 0·68 by 0·53, and are paler in ground colour.

167. BLYTH'S REED-WARBLER.

ACROCEPHALUS DUMETORUM.

Acrocephalus dumetorum, Blyth, J. As. Soc. Beng. xviii. p. 815 (1849); Dresser, ii. p. 561, pl. 86, fig. 2; Seebohm, Cat. B. Br. Mus. v. p. 104; (Oates), F. Brit. Ind. Birds, i. p. 359; Pleske, Orn. Ross. ii. p. 532. *A. magnirostris* (Liljeb,) Öfv. K. Vet. Ak. Förh. 1850, p. 274, pl. xix.

Podena, Hind.; *Tik-tikki*, of the Mussulmans; *Tikra*, Beng.; *Sadovaya-Malinofka*. Russ.; *Viitakerttu*, Finn.

♂ *ad.* (Ural). Upper parts dull light olivaceous brown; the rump more olivaceous, the sides of the head tinged with grey; wings and tail dark brown margined with olivaceous brown; a dull white superciliary stripe; under parts white, tinged with yellowish buff on the breast, flanks and crissum; bill brown above, fleshy below; legs reddish brown; iris yellow-brown. Culmen 0·6, wing 2·5, tail 2·2, tarsus 0·9 inch; first primary narrow, equal in length to the coverts, second 0·2 shorter than the 3rd, and about equal to the 7th; 3rd and 4th nearly equal and longest, sexes alike. In the winter the underparts are washed with clear buff.

Hab. Russia, from the Government of St. Petersburg east to the valley of the Yenesei, and from Archangel to Orenburg;

Transcaspia, the Altai, Turkestan, Bokhara, and the Himalayas from Kashmir to Nepal, wintering in India from the Himalayas to Ceylon, and from Sind to Assam and southern Pegu.

In its general habits is less aquatic than its allies, and frequents not only reeds and trees overhanging the water, but also low bush jungle and is to be met with at an altitude of 6,000 feet or even higher. Near St. Petersburg it is generally met with in gardens. Its call-note is a sharp *tchik, tchik* resembling the sound caused when a flint and steel are struck but I find no description of its song. It places its nest in a low bush near the ground, and the nest is globular with a lateral entrance, rather loosely constructed of grass, and lined with finer grass or horsehair. The eggs which are deposited in May run into three varieties, the first of which are pale rose coloured with violet-grey and reddish brown and a few black spots, the second milky white spotted with olive-brown, and the third dirty white so closely spotted with brown that the ground colour is almost hidden. In size they average about 17·85 by 12·95 millimetres (0·70 by 0·60 inch).

168. REED-WARBLER.

ACROCEPHALUS STREPERUS.

Acrocephalus streperus, (Vieill.) Nouv. Dict. xi. p. 182 (1817); Newton, i. p. 369; Gould, B. of Gt. Brit. ii. pl. 73; Dresser, ii. p. 567, pl. 87, fig. 1; Seebohm, Cat. B. Br. Mus. v. p. 102; Saunders, p. 79; Lilford, iii. p. 36, pl. 18; *A. arundinaceus*, nec. Linn. (Naumann), iii. p. 614, Taf. 81, fig. 2.

Rousserolle effarvatte, French; *Rouxinol pequero Lascaniças*, Portu.; *Pinzoleta*, Span.; *Cannajola minore*, Ital.; *Teichsänger* German; *Kleine Karekiet*, Dutch; *Rörsanger*, Dan.; *Rörsångare*, Swed.; *Trostnikovaja-Kameschefka*, Russ.; *Trzcionka*, Polish.

♂ *ad.* (Italy). Upper parts pale brown with a rufous tinge; wings and tail hair-brown margined with rufous brown; superciliary line pale yellowish buff; underparts pale buff darkest on the flanks; bill dark horn, yellowish at the base below; legs slaty brown; iris dark brown. Culmen 0·6, wing 2·55, tail, 2·05, tarsus 0·9 inch; second quill about equal to the fourth; female similar but rather smaller; in the winter the underparts are more tinged with buff.

Hab. Europe generally, from southern Sweden and Great Britain to the Mediterranean, and from Portugal to Palestine, Asia Minor, Persia, and Afghanistan, wintering in Central Africa.

In its habits the Reed-Warbler is essentially aquatic, frequenting reed-beds and bushes in swampy localities. As a rule it is not shy but is averse to coming out into the open, and creeps about amongst the dense aquatic herbage with the greatest ease. Its call-note resembles the syllables *tscho*, *tscho*, and its song, which is uttered at intervals throughout the day and especially in the evening, is clear and melodious. It feeds chiefly on insects of various kinds, but occasionally on berries. The nest, which is suspended from reeds or willow twigs, is deep cup-shaped, artistically constructed of fine roots, grasses, plant-stems &c., and lined with fine rootlets or grass-bents, and the eggs 4 or 5 in number, are deposited late in May or in June, and are French white faintly tinged with green, and marked with greenish grey underlying shell markings and greenish brown surface spots which are distributed over the whole egg. In size they average about 0·75 by 0·53.

169. MARSH-WARBLER.

ACROCEPHALUS PALUSTRIS.

Acrocephalus palustris, (Bechst.) Orn. Taschenb. i. p. 186 (1802); (Naumann), iii. p. 630, Taf. 81, fig. 3; Dresser, ii. 573, pl. 87, fig. 2; (Gould), B. of E. ii. pl. 109; (id.) B. of Gt. Brit. ii. pl. 74; Newton, i. p. 373; Seebohm, Cat. B. Br. Mus. v. p. 101; Saunders, p. 81; Lilford, iii. p. 38, pl. 19.

Rousserolle-verderolle, French; *Cannajola-verdognola*, Ital.; *Sumpfrohrsänger*, German; *Bosch-Rietzanger*, Dutch; *Sumpsanger*, Dan.; *Kärrsångare*, Swed.; *Bolotnaja-Malinofka*, Russ.; *Lozóvka*, Polish.

♂ *ad.* (Belgium). Resembles *A. streperus*, but the upper parts are more olivaceous green, the underparts whiter, and the second quill is slightly shorter than the third, occasionally shorter only than the 4th; beak and iris as in *A. streperus*; legs fleshy brown. Culmen 0·6, wing 2·8, tail 2·3, tarsus 0·95 inch; female similar but rather smaller. In the winter the underparts are washed with buff.

Hab. Europe from southern Sweden to the Mediterranean, and from Portugal to the Ural range, wintering in Palestine, Persia, and Africa; of rare occurrence in England.

The Marsh-Warbler is less aquatic in its habits than the Reed-Warbler for though it is found in damp localities, yet it also frequents gardens and groves. Its call-note is harsh, resembling that of the Reed-Warbler, and its song is exceedingly rich and sweet, far superior to the song of that species, and somewhat resembles that of the Icterine Warbler, but is richer and of more compass. It is also an excellent mimic. It never places its nest amongst reeds or over the water, but in a bush, amongst rank herbage or in tangled brushwood, on dry ground, and seldom below from one to three feet above the ground. It is constructed of dry plant-stems, grasses, and nettle-fibres interwoven with insect-webs, and lined with fine grass-bents and horsehairs. The eggs 4 to 6 in number are usually deposited in June, and are French white, occasionally with a faint greenish tinge, somewhat sparingly marked with small purplish grey shell-markings, and larger dark brown or purplish brown surface-spots, which are usually more numerous at the larger end. In size they average about 0·73 by 0·52.

170. GREAT REED-WARBLER.

ACROCEPHALUS ARUNDINACEUS.

Aerocephalus arundinaceus, (Linn.) Syst. Nat. i. p. 296 (1766); (Hewitson), i. p. 122, pl. xxxii. figs. 3, 4; Newton, i. p. 364; Dresser, ii. p. 579, pl. 88; *A. turdoides*, (Meyer), Vög. Liv. and Esthl. p. 116 (1815); (Naumann), iii. p. 597, Taf. 81, fig. 1; (Gould), B. of E. pl. 106; (id.) B. of Gt. Brit. ii. pl. 72; Seebohm, Cat. B. Br. Mus. v. p. 95; Saunders, p. 83; Lilford, iii. p. 34, pl. 17.

Rousserolle, French; *Rouxinol dos paús*, Portug.; *Carrisalero*, Span.; *Cannaseccione*, Ital.; *Karakiet, Rietlijster*, Dutch.

♂ *ad.* (S. Russia). Upper parts dull light brown tinged with warm rufescent olivaceous; quills and tail brown, the former with lighter margins; an indistinct dull white supercilium; under parts white, the underwing and tail-coverts and flanks washed with pale warm fawn-colour; a few indistinct striæ on the throat; bill brown, the lower mandible yellowish at the base; legs light brown; iris dark brown. Culmen 0·78, wing 3·85, tail 3·15, tarsus 1·2 inch; first primary small, much shorter than the coverts, 2nd and 3rd equal and longest. Female similar, the young have the upper parts tinged with rusty ochreous, the supercilium warm fawn-buff, and the underparts excepting the chin and upper throat, warm rusty fawn. In the winter the under parts of the adult are much more fulvous in tinge.

Hab. Central and southern Europe, as far north, though rarely, as Great Britain, and southern Sweden; south to North Africa and east to Palestine, Asia Minor, Persia, Turkestan, and Afghanistan, wintering in Africa south to the Transvaal.

Frequents damp marshy localities and dense reed-beds, where it creeps about amongst the aquatic herbage with ease

Its flight is jerky and feeble, and it is very shy and averse to take wing. Its call-note is a harsh *tschak* or *tack* and a deep *tscharr*, and its song though loud and not unmelodious is not of a high order, and is generally uttered from a high reed or some exposed position. It feeds chiefly on insects and in autumn to some extent on berries. Its nest is like that of the Reed-Warbler, but larger, and is attached to several stems of rushes, or reeds near the water. The eggs which are deposited in May or June, usually 4 or 5 in number, are pale blue green marked with purplish grey shell-blotches, and dark brown surface-spots, and average 0·9 by 0·75 in size.

171. EASTERN GREAT REED-WARBLER.

ACROCEPHALUS ORIENTALIS.

Acrocephalus orientalis, (Temm. and Schleg.) Faun. Jap. Aves. p. 50. pl. XXB. (1847) : Pleske, Orn. Ross. ii. p. 493 : (Oates), F. Brit. Ind. Birds, i. p. 357 ; Seebohm, Cat. B. Br. Mus. v. p. 97.

♂ *ad.* (China). Differs from *A. arundinaceus* in being smaller, in having the legs slate-grey, and in having the second quill intermediate between the 3rd and 4th or between the 4th and 5th. Culmen 0·9, wing 3·2, tail 2·9, tarsus 1·0 inch.

Hab. Siberia, as far west as the Argun river, Northern and Central China, and Japan, wintering in Burma, Tenasserim, the Andamans, and Philippines nearly as far south as Australia.

In habits and song it resembles the preceding species, and its nest and eggs are similar, but the latter are, as a rule, somewhat smaller.

172. CLAMOROUS REED-WARBLER.

ACROCEPHALUS STENTOREUS.

Acrocephalus stentoreus, (Hempr. and Ehr.) Symb. Phys. Aves. fol. *b.b.* (1828) ; Stafford Allen, Ibis. 1864, p. 97, pl. i ; Dresser, ii. p. 585 ; Seebohm, Cat. B. Br. Mus. v. p. 98 ; (Oates), F. Brit. Ind. Birds, i. p. 356 ; *A. brunnescens*, (Jerdon), Madr. Journ. x. p. 269 (1839) ; Hume and Henderson, Lahore to Yark. p. 214, pl. xvi.

♂ *ad.* (India). Differs from *A. arundinaceus* in having the wing shorter, the bill longer, and not so stout, the second primary about equal to the 5th and shorter than the 3rd and 4th ; upper mandible dark horn, under mandible flesh colour with a dusky tip ; legs and feet greenish plumbeous ; iris brownish yellow. Culmen 0·9, wing 3·45, tail 3·3, tarsus 1·15 inch.

Hab. Egypt, Transcaspia, Persia, Bokhara, Turkestan, Kashmir, Nepal, Sind, and Ceylon, wintering on the plains of India from the Himalayas to Ceylon, and from Sind to Assam and southern Pegu.

In general habits it does not differ from *A. arundinaceus* and frequents the same localities, but its song is said to differ not a little and to be louder. Its call-note is a loud *tchak*, often repeated. The breeding season is from May to August according to locality, and the nest is built amongst the reeds or in the fork of a low bush, always over water. It is deep, cup-shaped, constructed of aquatic herbage, fine roots, grass, and fibres, and 4 eggs are usually deposited. These vary considerably both in ground colour and markings. In most the ground colour is pale green or greenish white occasionally with a bluish tinge, in some it is creamy stone-colour; some are stippled with numerous minute specks, and spotted and blotched with greyish black, inky purple, olive-brown, yellowish olive and reddish umber, whereas in others the stippling is wanting and the markings are smaller and less well defined, and in most the markings are most numerous at the larger end. Average size about 0·89 by 0·61.

173. SCHRENCK'S REED-WARBLER.

ACROCEPHALUS BISTRIGICEPS.

Acrocephaelus bistrigiceps, Swinhoe, Ibis, 1860, p. 51; Seebohm, Cat. B. Br. Mus. v. p. 94; Pleske, Orn. Ross. ii. p. 465; (Oates), F. Brit. Ind. Birds, i. p. 358; *A. maackii* (Schrenck), Reis. Amurl. i. pt. 2. p. 370, pl. xii. figs. 4, 5; Tacz. F. O. Sib. O. p. 236; (David and Oust.) Ois. Chine. p. 254.

♂ *ad.* (Japan). Upper parts russet brown, the head, wings, and tail greyer, rump and margins of quills and tail rufescent; a narrow but distinct whitish superciliary stripe, above which is a dark brown, broad stripe; lores and feathers behind the eye russet brown; chin and throat nearly white; breast and flanks pale rufous brown, the centre of abdomen and under tail-coverts pale buff; upper mandible brown, the lower flesh-coloured, brown at tip; legs plumbeous flesh; iris dark brown. Culmen 0·6, wing 2·1, tail 2·1, tarsus 0·8 inch; first primary 0·5 long, second intermediate between 6th and 7th.

Hab. Siberia east of the Argun, Saghalien, and Japan; wintering in Southern Pegu and Tavoy.

In habits it does not differ appreciably from its allies and frequents moist and marshy places. It is an industrious songster and its song is loud and agreeable though somewhat hurried. It commences nidification in June and builds amongst grass or dense undergrowth, and its nest which is placed usually one or two feet above the ground is strongly constructed of plant-cotton, grass and plant-stems, and the cup, which is deep, is lined with finer bents and horsehair. The eggs, 4 to 6 in number, resemble those of *A. schœnobœnus*, but are much browner and darker, and measure only 0·63 by 0·51.

174. AQUATIC WARBLER.

ACROCEPHALUS AQUATICUS.

Acrocephalus aquaticus, (Gmel.) Syst. Nat. i. p. 953 (1788); (Temm.) Man. d'Orn. p. 131 (1815); (Gould), B. of E. ii. pl. 3. fig. 2; (id.) B. of Gt. Brit. ii. pl. 76; (Naumann), iii. p. 686, Taf. 82. figs. 2, 3, 4, 5; Newton, i. p. 380; Seebohm, Cat. B. Br. Mus. v. p. 89; Dresser, ii. p. 591, pl. 89; Saunders, p. 87; Lilford, iii. p. 42, pl. 21; *S. cariceti*, Naumann, Isis, p. 785, 1821.

Becfin aquatique, French; *Arandillo*, Span.; *Pagliarolo*, Ital.; *Binsen-Rohrsänger*, German; *Vandsanger*, Dan.

♂ *ad.* (France). Crown blackish brown, forehead reddish buff; superciliary and median stripes broad buffy white; upper parts greyish buff tinged with ochreous, each feather with a dark brown median patch; rump and upper tail-coverts washed with warm ochreous; wings and tail brown with light margins, inner secondaries darker and edged with buffy white; under parts white tinged with buff; sides of head and neck and hind-neck buffy grey with dark striations; lower throat and flanks striated with brown; bill brown, base of lower mandible yellowish; legs pale yellowish brown; iris dark brown. Culmen 0·4, wing 2·4, tail 1·95, tarsus 0·8 inch. The female resembles the male but the young have the upper parts washed with warm rufescent ochreous, and the underparts except the chin and the middle of the abdomen warm yellowish buff.

Hab. Inhabits central and southern Europe and North Africa, north as far as Denmark, and about 56° N. Lat. in Russia, east to the Ural, west to the Atlantic, straying rarely to Great Britain, and wintering in Africa.

The Aquatic Warbler frequents damp and marshy localities where the vegetation is rank and high, where patches of grass and flags are surrounded by water and morass, and small willow thickets are scattered round. It is active, restless, and very shy, and creeps through the dense vegetation with the greatest ease. It feeds chiefly on insects. Its call-note and song resemble those of the Sedge-Warbler, but the latter is shorter and scarcely so rich or varied. It breeds in May, and its nest, which resembles that of the Sedge-Warbler but is smaller, is constructed of plant-stems and bents, and a few rootlets, worked together with insect-webs and intermixed with plant-cotton, and lined with horsehair. The eggs 4 or 5 in number resemble those of the Sedge-Warbler, but are smaller and the ground colour is paler and yellower; they vary not a little, both in colouration and markings.

175. SEDGE-WARBLER.

ACROCEPHALUS SCHŒNOBÆNUS.

Acrocephalus schœnobænus, (Linn.) Syst. Nat. i. p. 329 (1766); Newton, i. p. 376; Dresser, ii. p. 597, pl. 90, fig. 2; *A. phragmitis* (Naumann), iii. p. 648, Taf. 82, fig. 1; (Hewitson), i. p. 117. pl. xxi. fig. 3; Seebohm, Cat. B. Br. Mus. v. p. 91; Saunders, p. 85; Lilford, iii. p. 40, pl. 20.

Becfin phragmite, French; *Ruisiñor sylvestre*, Span.; *Forapaglie*, Ital. *Schilf-Rohrsänger*, German; *Rietsanger*, Dutch; *Sivsanger*, Dan.; and Norweg.; *Säfsångare*, Swed.; *Kaislakerttu*, Finn.; *Kisilovka*, Russ.; *Rokitnicza*, Polish.

♂ *ad.* (Asia Minor). Crown blackish brown, streaked with tawny brown; supercilium yellowish white; upper parts dull reddish brown clouded with dark brown; rump and upper tail-coverts rufescent tawny; quills and tail dark brown with lighter margins; chin, throat, and middle of abdomen whiter; rest of underparts pale buff; the flanks and under tail-coverts washed with rufous; bill dark brown, base of lower mandible yellow; legs pale brown; iris brown. Culmen 0·55, wing 2·65, tail 2·1, tarsus 0·82 inch; first primary small and narrow, shorter than the coverts, second rather longer than the 4th, third longest. In the winter the supercilium and underparts are more tinged with buff.

Hab. Europe and Asia; as far northward to Finmark, eastward to the Yenesei, Turkestan, and the Altai, west to Spain, along the Mediterranean Basin, Palestine, and the Crimea; wintering in Africa as far south as the Transvaal. In Great Britain in summer, up to the Isle of Skye, and Ireland.

Frequents dense thickets of aquatic plants, sedge, and reed-patches, and bushes skirting water, is restless, active, and lively in its movements; its flight is irregular and feeble and it seldom shows itself in open places. It feeds on aquatic insects, and in the autumn to some extent on berries. Its call-note, which is frequently uttered, to some extent resembles that of the Whitethroat; and its song though hurried is pleasant and musical and by no means wanting in depth or power. It breeds in May in dense patches of aquatic herbage, and its nest which is fastened to the dense growing stems of aquatic plants, is constructed of dry stems of grasses, fine rootlets, and often a little moss, and lined with fine bents, horsehair, feathers and sometimes wool. Its eggs from 4 to 6 in number are pale yellowish brown or warm buff, closely dotted with dark brown or greenish buff, and sometimes streaked with short hair-like lines of black. In size they average about 0·65 by 0·52.

LUSCINIOLA, Gray, 1841.

176. THICK-BILLED WARBLER.

LUSCINIOLA AEDON.

Lusciniola aedon, (Pallas.) Reis. Russ. Reichs. iii. p. 695 (1776); (Schrenck), Reis. &c. Amurl. i. p. 367, Taf. xii. figs. 1, 2, 3; Seebohm, Cat. B. Br. Mus. v. p. 121; Tacz. J.f.O. 1873, Taf. (eggs) i.; Pleske, Prjevalsky's Reisen, ii. Taf. iii. fig. 1; id. Orn. Ross. ii. p. 381; (Oates), F. Brit. Ind. Birds, i. p. 390.

Tschok-tschok, Russ.

♂ (Dauria). Upper parts fulvous olive brown, rump brightest; quills and tail brown with fulvous brown margins; no eye-stripe; under parts buffy white, paler on the chin, throat, and abdomen; flanks, vent, and under tail-coverts washed with buff; upper mandible pale horn, under mandible flesh-colour; legs and eyelids plumbeous; iris amber brown. Culmen 0·8, wing 3·25, tail 3·4, tarsus 1·1; first quill 0·8 long, second intermediate between the 7th and 8th, 3rd and 4th nearly equal and longest. In the autumn the upper and under parts are washed with russet brown and in the young birds this tinge is more strongly developed. Sexes alike.

Hab. South-eastern Siberia from the Yenesei to the Pacific, and Northern China; wintering in India, Burma, Malacca, and the Andamans.

Frequents humid and marshy places, bushes or low trees close to water, or, on passage, bushes on the plains; extremely shy, it hides amongst the dense herbage on the least sign of danger. Its call-note resembles the syllables *tschok, tschok*, hence its Russian name, and its song is deep and melodious and is uttered throughout the day, but especially in the evening. It breeds in June, and places its nest from one to five feet above the ground on a willow or birch bush or a *Spiraea*. The nest is deep cup-shaped constructed of dry grasses and well lined with fine grass and sometimes horsehair. Its eggs 4 to 6, usually 5 in number, are rosy red, seldom rusty red, marked with pale brown or rusty yellow shell-blotches and fine twisted brown surface-streaks, sometimes pale rosy red without marking, and the surface is polished and smooth. In size they average about 23 by 16½ millimetres (0·91 by 0·65 inch).

177. Indian Hill Warbler.

LUSCINIOLA INDICA.

Lusciniola indica, (Jerdon.) Madr. Journal, xi. p. 6. (1840) ; Seebohm, Cat. B. Br. Mus. v. p. 126 ; Pleske, Orn. Ross. ii. p. 394 ; (Oates), F. Brit. Ind. Birds, i. p. 404.

♂ (India). Upper parts hair-brown, the rump tinged with yellow ; wings and tail paler margined, the outer tail-feathers tipped with white ; supercilium deep yellow shading into buff ; sides of head washed with buff ; underparts buffy yellow, dusky on the breast and flanks, the axillaries and under wing-coverts brown ; bill and legs greenish yellow, the former blackish on the culmen ; iris brown. Culmen 0·53, wing 2·5, tail 2·1, tarsus 0·75 inch ; first primary 0·5 to 0·7, second about equal to or rather longer than the tenth. In the autumn the upperparts are tinged with olivaceous, and the underparts buffer. The young bird resembles the adult in autumn.

Hab.. The Himalayas, (Gilgit and Kashmir), Bokhara, Turkestan, and the Altai range, retiring for the winter to the plains of India as far south as Jalna in Hyderabad, and Chánda.

Like the *Phylloscopi* this Warbler frequents tree growth and also bushes in rocky and precipitous localities. I find nothing on record respecting its general habits or its nidification.

178. Dusky Warbler.

LUSCINIOLA FUSCATA.

Lusciniola fuscata, (Blyth), J.A.S. Beng. xi. p. 113 (1842) ; Seebohm, Cat. B. Br. Mus. v. p. 127 ; Pleske, Orn. Ross. ii. p. 398 ; (Oates), F. Brit. Ind. Birds, i. p. 405.

♂ (E. Siberia). Upper parts wings and tail brown, the wings and tail margined exteriorly with olivaceous brown ; supercilium buffy white ; cheeks and ear-coverts brown and pale buff intermixed ; underparts white tinged with buff ; the breast, flanks, axillaries, and under tail-coverts buff ; bill dusky brown ; the lower mandible yellowish except at the tip; legs dusky flesh ; iris brown. Culmen 0·49, wing 2·45, tail 2·25, tarsus 0·9 inch ; first primary 0·8 long, second intermediate between the 9th and 10th. After the autumn moult the upper parts are richer brown ; the supercilium buff ; and the breast, flanks, and under tail-coverts rich deep buff.

Hab. Northern Asia from the valley of the Yenesei to the Pacific Ocean, and Japan, China and Mongolia on passage, and winters in Southern China, Assam, Burma, Bengal, and the N. W. Provinces of India east of the longitude of Etawah.

Frequents low bushes on the plains and at low altitudes in the hills especially in damp localities, and is as a rule not shy. Its alarm-note resembles the syllables *tscheck-tscheck*, *tscheck*, and its song is simple though loud, and may be heard throughout the summer till the young are fledged. It breeds in June, and its nest, which is placed on the ground or in a low bush within a couple of feet from the ground, is oven-shaped with the entrance hole in the side, constructed of dry grasses and moss, and well lined with feathers. The eggs 4 to 6, usually 5 in number, are pure white, rather pointed at the smaller end, and in size average about 16·6 by 12·5 millimetres. (0·65 by 0·49 inch). The Cuckoo very frequently deposits its eggs in the nests of this Warbler.

179. DYBOWSKI'S WARBLER.

LUSCINIOLA HOMEYERI.

Lusciniola homeyeri, (Dybowski), Bull. Soc. Zool. France, p. 358 (1883) ; Tacz. F. O. Sib. O. p. 275 ; Pleske, Ornith. Ross. ii. p. 409.

Differs from *L. fuscata*, in having a smaller bill, compressed laterally at the base ; first primary nearly half the length of the second which equals the 8th. or is intermediate between the 8th and 9th ; upper mandible horn-brown, paler on the edges, lower mandible yellowish ; legs dark horn-brown.

This species is only known by two specimens obtained by Dr. Dybowski at Tigil in Kamchatka neither of which I have seen, and take the description from Mr. Pleske.

180. ARMAND'S WARBLER.

LUSCINIOLA ARMANDI.

Lusciniola armandi, (Milne-Edwards), Nouv. Archives. Mus. Bull. i. p. 22 (1865) ; Seebohm, Cat. B. Br. Mus. v. p. 130 ; Pleske, Prjevalsky's Reisen, ii. Vögel, p. 119, Taf. iii. fig. 2. Taf. v. fig. 10 (eggs) ; *L. davidii*, (Swinhoe), P.Z.S. 1871, p. 355.

ad. Differs from *L. fuscata* in having the bill stouter, the throat and belly greenish white, and the feet more slender, first primary 0·7, second equal to or a trifle shorter than the 8th.

Hab. China and Mongolia, the Muniula mountains on the Tschurmyn river, and the upper Chuanche.

It does not occur in the mountain-forests in summer, but frequents the river-banks where there are dense bush-thickets, and breeds in the deciduous woods close to running water. It breeds in June and a nest was found by Prjevalsky in a barberry bush about five feet above the ground, which was round with the entrance hole in the side, and was constructed of dry grass lined with feathers of *Phasianus strauchi*. The 5 eggs were white, spotted with clay colour, and in size averaged 15·9 by 12·9 millimetres (0·63 by 0·47 inch).

181. Radde's Warbler.

LUSCINIOLA SCHWARZI.

Lusciniola schwarzi, (Radde), Reis. Sib. Vögel, p. 260, Taf. ix. figs, *a*, *b*, *c*, (1863); Seebohm, Cat. B. Br. Mus. v. p. 128; Pleske, Orn. Ross. ii. p. 388; Saunders, p. 73; Tacz. F. O. Sib. O. p. 276.

♂ *ad.* (E. Siberia). Upper parts dusky olivaceous brown, the rump tinged with tawny brown; wings and tail brown, externally margined with olivaceous brown; supercilium buff, strongly defined and reaching to the nape; lores and feathers behind the eye dark brown; ear-coverts buff and brown; underparts white tinged with pale buff; bill horn, fleshy white at the base, legs fleshy yellow; iris brown. Culmen 0·5, wing 2·45, tail 2·1, tarsus 0·9 inch; first primary more than half as long as the second, which is intermediate between the 7th and 8th, fourth and fifth longest. After the autumn moult the upper parts are tawny olive and the under parts are washed with tawny buff.

Hab. South-east Siberia from Transbaikalia to the island of Saghalien; and winters in southern China, Pegu, and northern and central Tenasserim; has occurred once in Lincolnshire.

It inhabits deciduous groves and the borders of forests where the bushes are dense. Its song is loud but short and not of a high quality. Nothing is known respecting its nidification.

182. MOUSTACHED WARBLER.

LUSCINIOLA MELANOPOGON.

Lusciniola melanopogon, (Temm.) Pl. col. 245, fig. 2 (1823) ; (Naumann), xiii. p. 456, Taf. 370, fig. 3 ; Dresser. ii. p. 605, pl. 90, fig. 1 ; Seebohm, Cat. B. Br. Mus. v. p. 132 ; (Oates), F. Brit. Ind. Birds, i. p. 369.

♂ *ad.* (Egypt). Crown and nape blackish edged with rufous brown ; upper parts rufous brown streaked with dark brown ; rump and upper tail-coverts plain rufous brown ; wings and tail brown externally margined with rufous brown ; under parts under wing-coverts and axillaries white ; the breast and flanks washed with buff ; superciliary stripe white and broad ; bill dark greenish brown above, lower mandible paler and fleshy at the base ; legs greenish brown ; iris brown. Culmen 0·52, wing 2·2, tail 2·1, tarsus 0·72 inch ; first quill 0·3 longer than the coverts, and 0·85 shorter than the second, which is 0·2 shorter than the 3rd which is about equal to the 4th and 5th.

Hab. Both sides of the Mediterranean as far north as central France, eastward through Asia Minor, the Caucasus, and Transcaspia to Persia and Turkestan, and in winter to India, In south Europe and north Africa it is a resident.

Frequents damp and marshy localities, especially dense reed-beds, where the herbage is so dense that it is difficult to work one's way through it, and being shy and unobtrusive it is most difficult to obtain this bird, for it creeps through the tangled herbage with the greatest ease, and but rarely ventures into the open. Its note is described as being a jarring sound.

It nests in Hungary and on the lower Volga in April and May. The nest is carefully concealed in bunches of, and amongst the roots of reeds, and is constructed of flat grasses and roots, and the eggs 4 to 5 in number resemble those of the Sedge-Warbler, but have a somewhat greener ground colour and are minutely spotted all over the surface with brown. In size they measure about 0·72 by 0·53.

183. SPOTTED BUSH-WARBLER.

LUSCINIOLA THORACICA.

Lusciniola thoracica, (Blyth), J.A.S. Beng. xiv. p. 584 (1845) ; Seebohm, Cat. B. Br. Mus. v. p. 124, pl. vi. fig. 1 ; Pleske, Orn. Ross. ii. p. 416 ; (Oates), F. Brit. Ind. Birds, i. p. 363 ; (Tacz.) F. O. Sib. O. p. 250 ; *Salicaria affinis*, Hodgs. in Gray's, Zool. Misc. p. 82 (1844 desc. mell.) ; (David and Oust.) Ois. Chine, p. 247.

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♂ *ad.* (India). Upper parts, wings and tail olive-brown tinged with rufous ; lores and supercilium ashy white, sides of head and neck ashy brown ; throat ashy brown spotted with black ; chin and abdomen white ; breast ashy ; flanks and under tail-coverts dull reddish brown the latter tipped with dull white ; bill dark brown the base of the lower mandible paler ; legs pale fleshy ; iris hazel. Culmen 0·5, wing 2·25, tail 2·5, tarsus 0·7 inch : first primary about half the length of the second which is equal to the 9th or 10th, 3rd, 4th, and 5th nearly equal and longest. In the winter the sides of the head and neck, the throat and breast are washed with ochreous and the spots on the throat are smaller. The young bird has the chin, throat, and abdomen dull yellowish tinged with green and the rest of the under parts dull ochreous brown and the throat is mottled or irregularly barred with brown.

Hab. Southern Siberia near Lake Baikal, north China, Kansu, Moupin, Nepal, Sikhim, and Kashmir.

Frequents dry localities, meadows, etc. where the vegetation is rich, and there are dense bushes, and also damp places. It is not shy and if disturbed will not fly far. Its song, which is generally uttered from a dead branch of a bush, is described as resembling the syllables *trschi-trschi-trschi-trschi.* It breeds early in July, and its nest, which is placed in the branches of a fallen tree covered with grass or in a heap of sticks is oven-shaped, constructed of dry grass and lined with the same but finer materials. The eggs 4 to 6 in number are white with a rose tinge, spotted and dotted with purplish ashy and purplish brown, the spots being more numerous round the larger end, and in size average about 18·46 by 13·1 millimetres (0·72 by 0·51 inch).

184. LARGE BILLED BUSH-WARBLER.

LUSCINIOLA MAJOR.

Lusciniola major, (Brooks), J.A.S. Beng. xli. p. 77 (1872) ; (Oates), F. Brit. Ind. Birds, i. p. 362 ; Seebohm, Cat. B. Br. Mus. v. p. 124 ; Pleske, Prjevalsky's Reisen, ii. p. 123, Taf. i. fig. 5.

Chighchi, Turki.

♂ *ad.* (Gilgit). Upper parts dull light olivaceous brown washed with fulvous ; wings and tail brown with margins like the back ; supercilium buffy white, indistinct ; chin and throat white spotted with brown ; centre of abdomen white, the rest of the underparts ochraceous brown ; under wing-coverts and axillaries buffy white ; beak blackish ; legs yellowish fleshy; iris brown. Culmen 0·65, wing 2·28, tail 2·6, tarsus 0·9 inch; first quill 0·25 longer than the coverts, second equal to the 10th, fifth longest.

Hab. Kashmir, and Mongolia where Prjevalsky obtained it in the Russki mountains at an elevation of 7,500 feet.

Frequents cultivated fields and grassy localities near ditches. Its song resembles the sound made by a spinning-wheel and is generally uttered from the grass, less often when the bird is on a bush. It is shy and difficult to flush as it creeps about and hides in the dense herbage with ease. Its nest and eggs are as yet unknown.

185. TACZANOWSKI'S WARBLER.

LUSCINIOLA TACZANOWSKIA.

Lusciniolia taczanowskia, (Swinhoe), P.Z.S. 1871, p. 355; *L. intermedia*, (Oates), Str. Feath. ix. p. 220 (1880); Seebohm, Cat. B. Br. Mus. v. pl. vi. fig. 2 (hind figure); (Pleske), Orn. Ross. ii. p. 421, Taf. iii. fig. 5; (Oates), F. Brit. Ind. Birds, i. p. 363; *L. luteiventris*, (David and Oust.) Ois. Chine. p. 239 (1877).

♂ *ad.* (Burma). Upper parts and tail russet brown, the latter with lighter tips; wings plain brown, externally margined with russet brown; supercilium indistinct dull white; lores tinged with brown; ear-coverts hair-brown with paler shafts; cheeks white, the feathers generally tipped with brown; under parts white the breast flanks and under tail-coverts tinged with buff, the last with broad white tips; axillaries and under wing-coverts pale buffy white; bill dark brown; the base of lower mandible whitish; legs whity flesh; iris hazel. Culmen 0·55, wing 2·2, tail 2·4, tarsus 0·8 inch; first primary about one-third as long as the second which is intermediate between the 8th and 9th, third and fifth equal, the 4th rather longer. The young have the cheeks and underparts washed with deep yellowish buff, and the feathers on the throat tipped with dusky brown.

Hab. Eastern Siberia from the Transbaikal to the Ussuri, wintering in Burma..

Frequents paddy-fields and grassland where there are bushes, and is somewhat shy, skulking amongst the dense herbage. Its nest, which is placed in a bunch of grass near the ground, is tolerably well constructed of dry grasses, lined with similar but finer materials, and the eggs 4 or 5 in number resemble those of the Grasshopper-Warbler but are smaller.

LOCUSTELLA, Kaup. 1829.

186. GRASSHOPPER-WARBLER.

LOCUSTELLA NÆVIA.

Locustella nævia, (Bodd.) Tabl. Pl. Enl. p. 35, No. 581 (1783) ; Newton, i. p. 384 ; Dresser, ii. p. 611, pl. 91 ; Saunders, p. 89 ; Lilford, iii. p. 44, pl. 22 ; *L. locustella*, (Lath.) Ind. Orn. ii. p. 515 (1790) ; Seebohm, Cat. B. Br. Mus. v. p. 115 ; (Naumann), iii. p. 701, Taf. 83, figs. 2, 3 ; (Hewitson), i. p. 112, pl. xxxi. fig. 1 ; "*L. avicula Ray*," Gould, B of E. pl. 103 ; id. B. of Gt. Brit. ii. pl. 78.

Becfin locustelle, French ; *Heuschrecken - Sänger* German ; *Sprinkhaan rietzanger*, Dutch ; *Buskrörsmutte*, Dan.; *Forepaglie macchiettato*, Ital. ; *Svertschok*, Russ.

♂ *ad.* (England). Upper parts olive-brown spotted with blackish brown ; quills and wing-coverts margined with light olive-brown ; tail dark olive-brown, much rounded ; sides of head pale olive-brown ; chin and abdomen white ; throat, breast, and flanks pale olive-brown the former tinged with rufous ; tail-coverts very long, pale brown with dark brown central stripes ; bill dark ; legs pale brown ; iris brown. Culmen 0·55, wing 2·45, tail 2·25, tarsus 0·8 inch ; first primary about equal to the coverts, second and fourth equal, third a trifle longer. Sexes alike. The young has the upper parts more boldly spotted, and the throat and upper breast are finely spotted with dark brown.

Hab. Central and southern Europe, north to Denmark, and, as a straggler to southern Norway and Karelen in Finland, east to Russia, and west to Spain ; breeds in Great Britain and Ireland ; winters in north Africa, and to some extent in south Europe.

Frequents bush-covered localities both in dry and swampy places, and has been found in bush-scrub on sandy, dry hillocks. Extremely shy and unobtrusive, it is not often seen, but is best recognised by its peculiar grasshopper-like note which it utters continually. It feeds on insects of various kinds which it captures either on the wing or amongst the foliage of bushes. Its nest, placed on the ground and carefully concealed amongst the herbage or in tangled brushwood, is cup-shaped, neatly constructed of grass-bents, moss, and a few leaves, and lined with finer bents ; the eggs 5 or 6, rarely 7 in number, are deposited in May, and are rosy white minutely spotted with reddish brown, which in some is generally distributed over the surface of the egg, and in others collected round the larger end ; measure about 0·75 by 0·55. A second brood is generally raised in the season.

187. EASTERN GRASSHOPPER-WARBLER.

LOCUSTELLA STRAMINEA.

Locustella straminea, (Severtzoff), Turk. Jevot. p. 66 (1873); Dresser, ix. p. 95, pl. 652; Seebohm, Cat. B. Br. Mus. v. p. 117; Oates, F. Brit. Ind. Birds, i. p. 354; *L. hendersoni*, (Cass.) apud. Hume. Str. Feath. vi. p. 340; Dresser, ii. p. 614.

♂ *ad.* (Ural). Differs from *L. nævia* in being smaller paler and more olivaceous in colour, the dark markings stronger defined, the under parts white, washed with buff on the breast and flanks; bill horn-brown, yellowish at base; legs dull yellowish flesh; iris brown. Culmen 0·55, wing 2·15, tail 1·95, tarsus 0·82 inch; first primary equal to the coverts, second intermediate between the 5th and 6th, third longest.

Hab. From the Ural range, through Turkestan to the Pamirs, breeding in the Ural, Transcaspia, and Turkestan, and wintering in the plains of India.

In habits it does not differ from its western ally, and its nest and eggs, of which I do not find any description, doubtless resemble those of that species.

188. LANCEOLATED WARBLER.

LOCUSTELLA LANCEOLATA.

Locustella lanceolata, (Temm.) Man d'Orn. iv. p. 614 (1840); Dresser, ii. p. 617, pl. 92, fig. 2; Seebohm, Cat. B. Br. Mus. v. p. 118; Pleske, Orn. Ross. ii. p. 626; Oates, F. Brit. Ind. Birds. i. p. 353.

Pertouzi kritschal, Russ.

♂ *ad.* (E. Siberia). Upper parts dark olive-grey tinged with brown distinctly streaked with blackish brown; wings and tail dark brown margined with greyish brown; sides of the head pale olive-grey streaked with dark olivaceous; superciliary stripe dull white; under parts white tinged with ochreous and streaked with blackish brown, except the chin and abdomen; bill dark brown, the base of the lower mandible yellowish; legs fleshy white; iris dark brown. Culmen 0·5, wing 2·2, tail 1·83, tarsus 0·7 inch. Female similar but a trifle smaller. In the autumn dress the upper parts are tinged with reddish brown; very old birds have the under parts less striped, some being almost without stripes. Young birds have the under parts washed with ochreous, and have the upper parts more olivaceous in tinge.

Hab. Of very rare occurrence in Russia west of the Ural, but is generally distributed in Siberia as far east as Saghalien and north to Kamchatka; China on passage, and winters in Burma, and India as far west as Etawah, and south to the Andaman Islands.

Frequents damp, marshy localities, willow bushes, and reeds on the borders of water, and skulks closely amongst the dense herbage, so that it may almost be trodden on before it will rise, and runs rapidly along the ground. Its song, which may be heard throughout the day, is a piping vibrating sound resembling the note of a locust and sounds sometimes as if quite near, and at others as far away though the bird may be quite close. It feeds almost entirely on aquatic insects of various kinds. Its nest, which is placed in damp localities on the ground and most carefully concealed, is neatly constructed of dry grasses a little moss and small leaves, and lined with fine grasses. The eggs, usually 5 in number closely resemble those of the Grasshopper-Warbler but are smaller, averaging in size about 0·71 by 0·51.

189. PALLAS'S GRASSHOPPER-WARBLER.

LOCUSTELLA CERTHIOLA.

Locustella certhiola, (Pall.) Zoogr. Ross. As. i. p. 509 (1871); Gould, B. of E. ii. pl. 105; (Naumann), xiii. pt. 2, p. 91; Dresser, ii. p. 633, pl. 94; Seebohm, Cat. B. Br. Mus. v. p. 114; Oates, F. Brit. Ind. i. p. 352; Pleske, Orn. Ross. ii. p. 597; *L. rubescens*, Blyth, J. As. Soc. Beng. xiv. p. 582.

Camishevka-priatlivaya, Russ.

♂ *ad.* (E. Siberia.) Crown and nape dark brown striped with buffy grey; upper parts warm ochreous brown blotched with blackish brown, rump less marked; wings and tail brown with external lighter margins, the latter darker towards the tip, and tipped with greyish white; superciliary stripe greyish white; under parts white, the breast, flanks, and undertail-coverts washed with buff, the last tipped with white: bill brown, the under mandible ochraceous at the base; legs fleshy white; iris brown. Culmen 0·55, wing 2·8, tail 2·33, tarsus 0·9, inch. Sexes alike. Young birds have the upper parts darker, the under parts yellowish and the throat striated.

Hab. Siberia from the Yenesei to the Pacific, and from the mouth of the Amur to the Altai range; China on passage, and winters in Burma, India, and the Malay archipelago; has once occurred as far west as Heligoland.

Frequents marshes, swampy, bush-covered places on the borders of rivers, and places which are covered with long grass; is very shy and skulking in its habits, and when flushed flies but a short distance, and takes refuge in the dense herbage from which it is most difficult to dislodge it. Its nest is placed on the ground and is carefully concealed amongst the grass and dense herbage. The eggs 4 to 6, usually 5 in number, are deposited in June and are pale rose-coloured, finely dotted with pale brownish red, or pale rose with almost imperceptible dots, or sometimes they have fine hair-like blackish streaks, chiefly round one end; or occasionally the brownish red spots are more numerous round the larger end forming a wreath. In size they average about 0·76 by 0·54.

190. MIDDENDORFF'S GRASSHOPPER-WARBLER.

LOCUSTELLA OCHOTENSIS.

Locustella ochotensis, (Midd.) Sib. Reise. ii. p. 185. pl. 16 fig. 7 and 8. (1853); Seebohm, Cat. B. Br. Mus. v. p. 113; Pleske, Orn. Ross. ii. p. 591, taf. iv. figs. 1, 2; *L. subcerthiola*, Swinhoe, Ibis, 1874 p. 154; *A. blakistoni*, id. Ibis, 1876, p. 332, pl. viii; *A dybowskii*, Ridg. Proc. U.S. Nat. Mus. vi. p. 92.

Shima- senniu, Jap.

♂ *ad.* (E. Siberia). Upper parts wings and tail russet brown obscurely marked with light brown, except on the upper wing coverts and inner secondaries where the markings are stronger; supercilium narrow and obscure; outer tail-feathers with a subterminal blackish band, and tipped with dull white; underparts white, the breast, flanks and undertail-coverts washed with brownish buff; bill dark horn, yellowish at the base of the lower mandible; legs pale rusty brown; iris brown. Culmen 0·7, wing 2·72, tail 2·3, tarsus 0·95 inch, first quill very small, second about equal to the fourth, third longest. Sexes alike; the young bird has the upper parts darker, the under parts washed with buffy yellow, and the throat and breast with indistinct darker markings.

Hab. The shores of the sea of Ochotsk, Kamchatka, the Kuriles and Bering's island, passing through Japan on migration, and wintering in the Malay archipelago.

It inhabits willow bushes and thickets in damp places, and is said to sing chiefly at night, uttering a song which is said to resemble the sharpening of a scythe, and is syllabled as *witsche, witsche, witsche, witsche.* It builds on the ground, amongst the grass, an open, cup-shaped nest of dried grass lined with feathers, and deposits in June 5 or 6 eggs, pale rose-coloured, unspotted, but marked with one or two fine blackish lines at the larger end, which sometimes form a wreath. In size they average about 0·8 by 0·57.

191. GRAY'S GRASSHOPPER-WARBLER.

LOCUSTELLA FASCIOLATA.

Locustella fasciolata (Gray), P.Z.S. 1860, p. 349; Seebohm, Cat. B. Br. Mus. v. p. 109, pl. v.; Pleske. Orn. Ross. ii. p. 564; *A. insularis*, Wallace, Ibis. 1862, p. 350.

♂ *ad.* (China). Upper parts wings and tail russet brown, crown and nape tinged with olivaceous, rump and upper tail-coverts more rufescent; outer web of second primary pale brownish; supercilium pale ashy and rather indistinct; under parts pale ash-grey, the centre of the abdomen nearly white; flanks washed with olive-brown, and under tail-coverts pale brownish ochraceous; bill dark brown, under mandible ochraceous at the base; legs brownish flesh-coloured; iris nut-brown. Culmen 0·78, wing 3·1, tail 2·95, tarsus 1·1 inch; first quill very small, shorter than the coverts, second about equal to the fourth, third longest. The young bird has the upper parts more olivaceous, and the under parts are maize yellowish in tinge.

Hab. Eastern Siberia from the Yenesei to the Ussuri; Saghalien, Northern Japan; occurs on passage in China and winters in the Malay archipelago.

Frequents places covered with high grass and bushes, and is shy and most difficult to flush, as it will not rise until almost trodden on and at once seeks refuge in the dense herbage, creeping through it on or close to the ground. Its song is loud, reminding one of a mazurka, and resembles the syllables *touti-routi, touti-routi*, and is uttered when the bird is on the ground. It sings chiefly at night, and but seldom during the day. It breeds in eastern Siberia but its nest and eggs are as yet unknown.

192. RIVER-WARBLER.

LOCUSTELLA FLUVIATILIS.

Locustella fluviatilis (Wolf.) Taschenb. Deutsch. Vogelk. i. p. 229 (1810); (Naumann), iii. p. 694; Taf. 83, fig. 1; Gould, B. of Eur. ii. pl. 102; Dresser, ii. p. 621, pl. 92, fig. 1; Seebohm, Cat. B. Br. Mus. v. p. 110.

Bec-fin riverain, French; *Fluss-sänger*, German; *Polussolovei, Sarantscha*, Russ.; *Virtakerttu*, Finn.; *Strumeniovka*, Polish.

♂ *ad.* (Silesia). Upper parts wings and tail uniform dark olive-brown, sides of head paler, tail tinged with rufous; an indistinct light mark passing through and behind the eye; under parts white, the breast and lower throat striped with brown ; under tail-coverts pale brown, with broad white tips ; bill horn-brown, lower mandible yellowish at the base ; legs dull flesh ; iris dark brown. Culmen 0·52, wing 2·9, tail 2·5, tarsus 0·85 inch ; first quill 0·2 shorter than the coverts, second and third nearly equal and longest. The young bird has the upper parts more rusty in tinge, the under parts tinged with ochreous, and the throat is also indistinctly striped.

Hab. Eastern Germany, Austria, and Hungary; Russia as far north as Central Finland, and about 60° N. Lat., in the Ural; wintering in Asia Minor, Palestine, and N. Africa.

Unlike the Grasshopper-Warbler the River-Warbler is more frequently to be met with in wooded districts than in marshes, and frequents thickets and meadows in the midst of large conifer woods, beech thickets, and pastures dotted with scattered bushes. Shy, and secretive it usually seeks safety by dodging about amongst the rank herbage. Its call-note is low and harsh, and its cicada-like song which though usually commenced on the ground is continued from the top of a bush, is like the syllables *zi, zi, zi,* repeated for some time, and though not unlike that of the Grasshopper-Warbler may be distinguished by a practised ear. Its nest, which is placed on, or nearly on the ground amongst grass and brambles, in the woods, not in marshy places, is constructed of dry grass and leaves, lined with finer grass-bents and rootlets, and the eggs, usually 5 in number, are deposited late in May or in June, and are white minutely spotted with greyish lilac underlying shell-markings, and dark reddish-brown surface-spots or dots, and in size average about 0·78 by 0·54.

193. SAVI'S WARBLER.

LOCUSTELLA LUSCINIOIDES.

Locustella luscinioides (Savi), Nuov. Giorn. Letter. vii. p. 341 (1824) ; (Naumann), xiii. p. 475, Taf. 370, figs. 4, 5 ; (Hewitson), i. p. 115, pl. xxxi. fig. 2 ; Gould, B. of E. ii. pl. 104 ; (id.) B. of Gt. Brit. ii. pl. 77 ; Newton, i. p. 389 ; Dresser, ii. p. 627, pl. 93 ; Seebohm, Cat. B. Brit. Mus. v. p. 112 ; Saunders, p. 91 ; (Lilford), iii. p. 46, pl. 23.

Fauvette des Saules, French ; *Salciajola,* Ital. ; *Weidenrohrsänger,* German ; *Nachtegaal-Rietzanger,* Dutch ; *Kamyschefka-solovjinaja,* Russ. ; *Brzęczka,* Polish.

♂ *ad.* (England). Upper parts wings and tail reddish brown with a faint olive tinge, the head rather darker and rump lighter ; tail with faint obsolete bars ; throat and centre of abdomen white, rest of the under parts pale rufescent buff, the flanks and under tail-coverts pale reddish brown; bill brown, lower mandible paler; legs pale brown; iris dark brown. Culmen 0·6, wing 2·7, tail 2·5, tarsus 0·9 inch; first quill 0·15 less than the coverts, second longest, second and third quills much curved. The young bird has the upper parts greyer and the under parts whiter than the adult.

Hab. Great Britain and Europe from Spain to the Volga, and from Holland to the Mediterranean; North-west Africa; Asia as far east as Transcaspia and Turkestan wintering in Palestine and Northern Africa. Before the fens were drained it was not uncommon in England, but is now very rare.

A true marsh bird, this species is never found except in low damp places, densely covered with reeds, sedges, and low bushes, and is shy, keeping well concealed amongst the dense herbage, and reluctant to take wing. Its call-note is a low *krr*, and its song, which is uttered throughout the day, is a long smooth trill, pitched higher, but possessing more tone than that of the Grasshopper-Warbler. Its nest, which is placed low down amongst the sedges, is constructed of flag or sedge leaves, loosely and clumsily built, and the eggs, 4 or 5 in number, are deposited in May, and are dull white in colour closely dotted with bluish grey shell-markings and brownish surface-spots, and average in size about 0·78 by 0·61.

CETTIA, Bp. 1838.

194. CETTI'S WARBLER.

CETTIA CETTII

Cettia cettii (Marm.) Mem. Acad. Tor. xxx. p. 254 (1820); (Gould), B. of E. ii. pls. 114, 115; (Dresser), ii. p. 639, pl. 95; Seebohm, Cat. B. Brit. Mus. v. p. 135; Pleske Orn. Ross, ii. p. 634.

Bec-fin Bouscarle, French; *Mascareta, Buscale*, Span.; *Rossignuolo di padule*, Ital.

♂ *ad.* (Spain). Upper parts chestnut-brown, wings and tail blackish brown; supercilary stripe dull white; sides of neck greyish brown; under parts white, breast washed with grey, flanks, crissum, and under tail coverts brownish grey; bill dark brown; legs light brown; iris nut-brown. Culmen 0·55, wing 2·35, tail 2·55, tarsus 0·9 inch, first primary 0·63, shorter than second, which is 0·35 less than the third, 4th, 5th, and 6th about equal and longest; tail of ten feathers only, and much graduated; sexes alike. The young bird differs only in having the plumage laxer in texture.

Hab. Southern Europe and north Africa from Portugal to Asia Minor, Palestine, Transcaspia, and Turkestan, east to the Central Asiatic desert region.

Unobtrusive and shy in its habits Cetti's Warbler is a difficult bird to watch. It frequents damp bush-covered localities, over-grown ditches, and also dry places in close proximity to water. Its song is clear and loud but short, and is like the first part of a Nightingale's song suddenly cut short, and it sings both by day and at night. Its nest is placed in a bush two or three feet from the ground, is deep, cup-shaped, constructed of small sedge-pieces, marsh-cotton and shreds of plants, and lined with fine grass, a few hairs and bits of cotton, and the eggs, 4 or 5 in number, are deposited in May, and are uniform bright brick red, sometimes with a pinkish tinge and average about 0·75 by 0·55 in size.

Mr. Oates considers the form which occurs in India to be specifically separable from our bird, in being larger and having the upper parts paler, but I do not agree with this view.

195. CHINESE BUSH-WARBLER.

CETTIA CANTURIANS.

Cettia canturians (Swinhoe) Ibis, 1860, p. 52 ; Seebohm, Cat. B. Brit. Mus. v. p. 141; (Oates), F. Brit. Ind. Birds, i. p. 438 ; Pleske, Orn. Ross. ii. p. 644, Taf. iv. fig. 3 ; Tacz. F. O. Sib. O. p. 230 ; *Homochlamys luscinia* ; Salvad. Att. Accad. Sc. For. v. p. 511 (1870).

♂ *ad.* (China). Upper parts wings and tail russet brown, on the back tinged with olivaceous ; supercilium indistinct, buffy white ; under parts white, the breast, flanks, and under tail-coverts pale buffy brown ; bill above brown, below flesh colour ; legs pale brownish flesh ; iris hazel. Culmen 0·7, wing 3·0, tail 2·95, tarsus 1·1 inch ; first quill about half the length of the second, which is about equal to the secondaries, fourth and fifth about equal and longest. Sexes alike. In the autumn the upper parts are more russet in tinge, and the under parts are rather darker. The young resemble the adult in autumn dress, but the colouration of the plumage is more pronounced.

Hab. North China and the Ussuri country as far north as Lake Hanka, and winters in southern China.

It avoids the plains even where there is tree growth, and affects mountain districts where black birches grow, on the precipices which are covered with under-brush. Its alarm-note resembles the syllable *tek* frequently repeated, and its song though loud, is short and abrupt, and sounds as if the bird never did more than commence its song. It places its nest in a bush-covered ravine either on the ground or in a bush close to the ground. The nest resembles that of Savi's Warbler, but is deeper and not so wide, and is constructed of broader flags. The eggs resemble those of *Cettia cettii*, though rather darker, and are either unspotted or finely spotted with small spots scarcely darker than the ground colour, which occasionally form a wreath round the larger end. In size they average about 0·78 by 0·6.

196. SUBSP. CETTIA MINUTA.

Cettia minuta (Swinhoe), Ibis, 1860, p. 52 ; Seebohm, Cat. B. Br. Mus. v. p. 141 : Pleske, Orn. Ross. ii. p. 650. Taf. iv. fig. 4 ; Tacz. F. O. Sib. O. p. 233.

♂ (China). Resembles *C. canturians*, but is smaller, and has the tail proportionately shorter, but the wing formula is the same. Culmen 0·6, wing 2·45, tail 2·15, tarsus 0·95 inch.

Hab. Hainan and South China, and as far north as the island of Askold in southern Ussuri land.

In its habits and note it is said to differ from the preceding species, but I do not find any description of either. Its nest and eggs are as yet unknown.

197. JAPANESE BUSH-WARBLER.

CETTIA CANTANS.

Cettia cantans (Temm. and Schlegel), Faun. Jap. Aves, p. 51. pl. xix. (1847) ; Seebohm, Cat. B. Br. Mus. v. p. 139 ; *S. cantillans* Temm. and Schlegel, Fauna. Jap. Aves, p. 52, pl. xx.

Ugiusu, Jap.

♂ *ad.* (Japan). Upper parts russet brown, paler on the rump, and upper tail-coverts rather paler ; back washed with olivaceous ; forehead rich russet brown ; supercilium buffy white, rather indistinct ; wings and tail brown externally, margined with russet brown ; under parts white, washed with buffy brown on the breast flanks and under tail-coverts ; axillaries pale yellow, under wing-coverts whiter ; bill dark brown ; under mandible pale horn at the base ; legs pale horn ; iris brown. Culmen 0·6, wing 2·6, tail 2·7, tarsus 0·9 inch ; first quill rather more than half as long as the second, which about equals the tenth ; fourth, fifth, and sixth nearly equal and longest. Female rather smaller. In the autumn the upper parts are more rufous, and the under parts somewhat darker.

Hab. Japan and Formosa, breeding near Yokohama in the mountains, and wintering in the plains.

UROSPHENA, Swinhoe (1877).

198. Short-tailed Bush-Warbler.

UROSPHENA SQUAMICEPS.

Urosphena squamiceps (Swinhoe), P. Z. S. 1883, p. 292 ; (Seebohm), Cat. B. Br. Mus. v. p. 142 ; Pleske, Orn. Ross. ii. p. 652. Taf. iv. fig. 5 ; (Oates), Faun. Brit. Ind. Birds, i. p. 442 ; (Tacz.) F. O. Sib. O. p. 225 ; *Cettia ussurianus*, Seebohm, op. cit. p. 143.

♂ *ad.* (E. Siberia). Upper parts, wings, and tail rich hair-brown, tinged with chocolate, the wings externally brighter margined, feathers on the head rounded ; supercilium buffy white, clearly defined ; lores and a streak between the supercilium and the ear-coverts dark brown ; ear-coverts and cheeks buffy white, the feathers tipped with brown ; under parts buffy white, the chin, throat, and middle of the abdomen pure white ; beak horn-brown, the lower mandible fleshy white at the base ; legs fleshy white ; iris dark brown. Culmen 0·53, wing 2·1, tail 1·05, tarsus 0·7 inch ; first quill rather less than half the length of the second, which is about equal to the eighth ; third, fourth, and fifth nearly equal and longest.

Hab. The southern Ussuri country and Japan, wintering in southern China, Formosa, and Tenasserim.

It arrives in the Ussuri country about the middle of May, and announces its presence by its continuous song, for it is extremely shy and secretive in its habits, and therefore seldom seen. It frequents dense under-brush and obtains its food, which consists of insects, on the ground. Its call-note resembles the syllables *chick, chick*, and its song, which is loud but simple, is continually raised and lowered in tone so that it is difficult to know where the bird is. Its nest is placed on the ground and its eggs, usually 4 in number, are deposited in June, and are white tolerably closely marked or blurred with red, with a brownish tinge, and measure about 0·67 by 0·52.

CISTICOLA, Kaup (1829).

199. Fantail Warbler.

CISTICOLA CURSITANS.

Cisticola cursitans (Franklin), P. Z. S. p. 118, 1831 ; Dresser, iii. p. 3, pl. 96 ; (Oates), F. Brit. Ind. Birds, i. p. 374 ; "*Salicaria cisticola*," Temm. (Gould), B. of E. pl. 113 ; *Cisticola cisticola*, Sharpe, Cat. B. Brit. Mus. vii. p. 259 ; *C. brunneiceps*, Temm. and Schlegel, Faun. Jap. Aves. p. 134, pl. 20.

Bec-fin cisticole, French; *Cagachin, Buitron*, Span.; *Becca moschino*, Ital.; *Cistenrohrsänger*, German; *Ghas-ka-phutki*, Hind.; *Senniu*, Jap.

♂ *ad.* (Corsica). Upper parts wings and middle tail-feathers blackish brown, with rufous buff margins to the feathers, rump and upper tail-coverts rufous buff, slightly marked with black; other tail-feathers brown, terminated with black, the lateral ones broadly tipped with white; under parts white, the breast washed with buff and the flanks with rufous; bill flesh colour, dark brown along the culmen; legs pinkish; iris light yellowish brown. Culmen 0·48, wing 1·9, tail 1·85, tarsus 0·75 inch. Female and young similar, but these latter are rather more fluffy in plumage, and the under parts are tinged with buffy yellow.

Hab. Southern Europe, Africa down to the Transvaal, Asia Minor to India, China, and Japan; the Malayan peninsula and islands.

Frequents grass-covered plains, fields, and localities covered with tangled herbage, both where the soil is wet and dry, and though not shy yet it is hard to dislodge from amongst the dense herbage through which it creeps with ease. It feeds on insects of various kinds, and casts up the indigestible portions in the form of pellets. Its call note is a harsh *teck, teck,* and its song which is uttered when the bird is perched on an exposed twig or long grass-stem, is poor and of little compass. It breeds from April to October according to locality, and its nest, which is a neat, deep, purse-shaped structure with the opening at the top, is constructed of fine dry grass-bents and rootlets, carefully lined with wool, hair, and fibres, and is attached to grass-stems or twigs, about a foot above the ground. The eggs, 4 or 5 in number, vary considerably, being either pale blue or white spotted with rufous, or occasionally pale pink unspotted. Usually the spots are more numerous at the larger end. In size they average about 0·62 by 0·45.

PRINIA, Horsf. 1821.

200. STREAKED WREN-WARBLER.

PRINIA GRACILIS.

Prinia gracilis (Cretzschm) in Rüpp. Atlas p. 3, tab. 2, fig. 6 (1826); (Dresser), iii. p. 13, pl. 97; (Sharpe), Cat. B. Brit. Mus. vii. p. 210.

♂ *ad.* (Adalia). Upper parts olivaceous grey, tinged with brown, streaked with blackish brown, the streaks being nearly obsolete on the rump; wings blackish brown, externally margined with olivaceous grey;

tail brown, obsoletely barred, tipped with white, and with a subterminal blackish band; under parts silky white, with obsolete streaks on the throat; flanks washed with pale warm buff; bill plumbeous brown, the lower mandible flesh coloured at the base; legs flesh yellow; iris yellowish brown. Culmen 0·4, wing 1·7, tail 2·85, tarsus, 0·7 inch. Female similar but slightly smaller.

Hab. Asia Minor and Palestine, south to N. E. Africa and Arabia where it is resident. In India it is replaced by a very closely allied, if distinct, form, *P. lepida* Blyth, which is somewhat paler, and has the subterminal bars on the tail very indistinct.

Frequents fields, gardens, and marshes, is very active and restless, and is hard to flush from the dense vegetation it frequents. Its call-note is low and clear and when uttering it the bird often carries its tail quite erect; its song which is powerful and melodious is either uttered from a tall grass-stem or a twig, or else as the bird is hovering in the air. It feeds on small insects which it obtains amongst the foliage or on the ground. It breeds from May to August and builds an egg-shaped nest with the entrance hole at the side, of dried grass lined with plant-down, which it places in a low bush or a bunch of grass. The eggs, 4 or 5 in number, are pale greenish white, very closely and finely dotted with pale red, the dots being more numerous round either the larger or smaller end. In size they measure about 0·61 by 0·44.

SCOTOCERCA, Sundevall, 1872.

201. STREAKED SCRUB-WARBLER.

SCOTOCERCA INQUIETA.

Scotocerca inquieta, (Cretzschm) in Rüpp. Atlas, p. 55, tab. 36, fig. B. (1826); Dresser, ix. p. 99, pl. 653, fig. 2; Blanf. E. Pers. ii. p. 207, pl. xiii. fig. 2; Sharpe, Cat. B. Br. Mus. vii. p. 213; *S. eremita* (Tristr.), Ibis, p. 76, 1867; *Melizophilus striatus*, Brooks, Ibis, 1872, p. 180.

♂ *ad.* (Baluchistan). Upper parts greyish hair-brown, the crown distinctly, the back indistinctly streaked with dark brown; wings and tail light brown, externally paler margined; lores and supercilium sandy buff; a spot before and a streak behind the eye blackish; sides of head greyish buff; under parts white, the throat streaked with blackish brown, the flanks washed with greyish buff; bill dark brown, the lower mandible orange-brown at the base; legs yellowish brown; iris brown. Culmen 0·45, wing 1·85, tail 1·65, tarsus 0·75 inch. Sexes alike.

Hab. Arabia Petræa, and Palestine, through Transcaspia and Persia to the west of the Indus.

Frequents stony desert places both bare and bush-covered, on the hills and plains, and is active and restless, tame and unsuspicious. Its food consists of insects, which it picks up on the ground and amongst the stones. Its call-note is harsh not unlike that of the Crested Titmouse, and its song, which is melodious, is somewhat Tit-like. It breeds in February or March and places its nest, which is globular, with the entrance hole on the side, constructed of dried grasses lined with plant-down or feathers, in a low bush close above the ground, and deposits 4 or 5 eggs, which are white, or pinky white, spotted with reddish pink or dark red, and in some the spots are collected and form a zone round the larger end. In size they average about 0·64 by 0·49.

202. ALGERIAN SCRUB-WARBLER.

SCOTOCERCA SAHARÆ.

Scotocerca saharæ (Loche), Rev.and Mag .de Zool. p.,395, 1858, pl. xi. fig. 2; Sharpe, Cat. B. Brit. Mus. vii. p. 214; Koenig, J. f. O. 1892, p. 395, tab. iii.; id. J. f. O. 1895, tab. xiii. (nest and eggs); Dresser, ix. p. 103, pl. 653, fig. 1; *D. striaticeps*, Tristr. Ibis, 1859, p. 58.

Ad. (Algeria). Differs from the preceding species in being warm isabelline where that species is brown; bill pale brown, lighter and tinged with orange at the base; legs yellowish flesh; iris brown. Culmen 0·4, wing 1·75, tail 1·7, tarsus 0·75 inch.

Hab. Algeria and Tunis; in the Sahara or never far north of it.

In habits it does not differ much from that species but is said to be shy timid and unobtrusive. Its nest which is placed in a desert-bush, near the ground, is globular, constructed of fine grasses, plant-stems and grass-roots interwoven with spiders' webs, and lined with a few feathers; and the eggs are white with a dull gloss, spotted and blotched with dull red and with a few pale lilac ground-markings, and in many specimens the red spots are more numerous round the larger end. In size they average about 0·65 by 0·50.

ARGYA, Lesson, 1831.

203. PALESTINE BUSH-BABBLER.

ARGYA SQUAMICEPS.

Argya squamiceps (Cretzschm) in Rüpp. Atlas, p. 19, Taf. 12 (1826); Dresser, iii. p. 23, pl. 98, fig. 2; Sharpe, Cat. B. Brit. Mus. vii. p. 395; *C. chalybeus.* Bp. C. R. xliii. p. 765.

♂ *ad.* (Palestine). Upper parts wings and tail greyish-dust-brown; feathers on the crown, sides of head and back with lighter margins and dark brown centres; under parts paler; the chin, centre of the throat and of the abdomen nearly white; feathers on the throat and breast with dark centres; flanks and under tail-coverts washed with warm buff; bill horn-brown, yellowish at the base; legs light brown; iris reddish brown. Culmen 1·0, wing 4·3, tail 5·7, tarsus 2·45 inch, outer tail-feather 2 inches shorter than the middle one. Sexes alike. The young bird resembles the adult, but the plumage is rather loose and lax.

Hab. Palestine and Arabia Petræa.

It is said to be sociable and noisy and usually collects in small parties. It runs on the ground with ease, and when followed runs from bush to bush. It frequents bush-covered places on the plains and feeds almost entirely on the berries of the zizyphus or jujube. Its nest which is a large clumsy structure, is built entirely of strips of bark and is placed in the middle of a thorn-bush, and the eggs, 4 to 6 in number, are usually deposited in April, are rich dark greenish blue and measure about 1·05 by 0·75.

204. ALGERIAN BUSH-BABBLER.

ARGYA FULVA.

Argya fulva (Desfontaines) Mém. de l'Acad. Roy. Sci. 1787, p. 498, pl. xi.; Dresser, iii. p. 21, pl. 98, fig. 1; Sharpe, Cat. B. Brit. Mus. vii. p. 397; *Malurus numidicus*, Levaill, jr. Expl. Scient. Alg. Atlas, Ois. pl. 9 bis, fig. 1 (1850).

Ad. (Algeria). Upper parts, wings and tail rufescent isabelline, faintly tinged with brown; feathers on head and back with darker centres; wings and tail externally margined with pale isabelline; chin and upper throat white, the rest of under parts pale warm rufous isabelline; the middle of abdomen creamy white; bill blackish horn; legs pale brownish yellow with a green tinge; iris light brown. Culmen 0·9, wing 3·85, tail 5·5, tarsus 1·3 inch. Sexes alike.

Hab. Tripoli, Tunis, Algeria, and Morocco, where it is resident.

Frequents plains covered with bushes or low trees and is wary and extremely noisy and garrulous. It is usually seen in pairs or small parties and runs from bush to bush. Its food consists of insects, seeds, and small berries. Its note is very peculiar *chur-chur-r-r, wheer wheer wheer.* Its nest is a loose structure of sticks, fine roots, and straws lined with wool and feathers and is placed in a bush near the ground, and the eggs 3 or 4 in number are clear deep greenish blue.

205. INDIAN BUSH-BABBLER.

ARGYA CAUDATA.

Argya caudata (Duméril), Dict. Class. d'Hist. Nat. x. p. 219 (1826); (Hume and Henderson) Lahore to Yark., p. 197, pl. ix.; Sharpe, Cat. B. Brit. Mus. vii. p. 393; (Oates), F. Brit. Ind. Birds, i. p. 106; *A. huttoni* (Blyth), J. As. Soc. Beng. xvi. p. 476 (1847); Blanf. E. Pers. ii. p. 203, pl. xiii. fig. 1: Sharpe, t. c. p. 394; *A. eclipes* (Hume), S. Feath. v. p. 337; Sharpe, t. c. p. 394.

Dumri, Chilchil, Peng, Hindu; *Huni,* Tam.

♂ *ad.* (India). Upper parts brown with a fulvous tinge streaked with dark brown; wings brown, the quills lighter on the outer web, the shafts dark; tail olivaceous brown darker barred, the shafts of the feathers dark; lores brown; ear-coverts rufescent; under parts pale fulvous, the chin, throat and middle of abdomen isabelline; sides of the breast slightly striated; bill light brown, yellow below at the base; legs yellow; iris brown. Culmen 0·7, wing 3·2, tail 4·7, tarsus 1·1 inch. Sexes alike.

Hab. Eastern and Southern Persia, Afghanistan, the whole of India proper, and the Laccadive and Ramesoaram Islands.

Frequents bush-covered localities, gardens, &c, and is generally found in small flocks and is often to be seen on the ground where it hops about in search of insects which form its chief food. Its flight is weak and peculiar, and seldom extended further than from bush to bush. It breeds late in March or early in April and places its nest in a tuft of grass or in a small bush or tree from three to four feet above the ground. The nest is deep cup-shaped neatly constructed of grass, fine roots, &c, and lined with the same materials or horsehair, and the eggs 3 or 4 in number are clear blue with a faint greenish tinge, unspotted, and in size average about 0.82 by 0.64.

RHOPOPHILUS, Gigl. and Salvadori, 1870.

206. CHINESE BABBLER.

RHOPOPHILUS PEKINENSIS.

Rhopophilus pekinensis (Swinhoe), Ibis, 1868, p. 62; Gould, B. of Asia, iv. pl. 3; David and Oust. Ois. Chine, p. 260, pl. 19; Sharpe, Cat. B. Br. Mus. vii. p. 117; Pleske, Prjevalsky's Reisen, Vögel, ii. p. 128.

♂ *ad.* (Mongolia). Differs from *R. albisuperciliaris* in having the upper parts darker than that species, especially on the head; sides of the head and neck dark ashy; supercilium ashy grey; flanks more strongly striped with rufous and washed with vinous chesnut; bill brown, the lower mandible yellowish at the base; legs rufous; iris clear pale yellow. Culmen 0·55, wing 2·4, tail 3·7, tarsus 0·95 inch.

Hab. Mongolia, the Alaschan Mountains, the valley of the Chuanche, and Northern China.

It is a resident frequenting dense bushes amongst which it creeps with ease. Its flight is easy but it seldom flies far, usually only from bush to bush. Its song is sweet but of short duration. Nothing is so far as I can ascertain, as yet known of its nidification.

207. WHITE-BROWNED BABBLER.

RHOPOPHILUS ALBISUPERCILIARIS.

Rhopophilus albosuperciliaris (Hume and Henders.), Lahore to Yark., p. 218, pl. xviii. (1873); Sharpe, Cat. B. Br. Mus. vii. p. 117; Pleske, Prjevalsky's Reisen, ii. p. 131; *R. pekinensis* var. *major*, Prjev. Mongol i Strana Tangut, ii. p. 32, No. 42 (1876); *R. deserti*, id. Izv. J. R. Geogr. Obtsch. xiii. p. 285.

♂ *ad.* (Yarkand). Upper parts sandy brown, clearly streaked with blackish brown; upper tail-coverts uniform; wings and tail brown margined with pale sandy brown, the outer tail-feathers terminated with white; lores and supercilium buffy white; ear-coverts isabelline; cheeks whitish, separated from the ear-coverts by a black stripe; under parts white, the sides of the breast and flanks streaked with pale rufous; bill dark brown, fleshy at the base below; legs flesh-coloured; iris dark brown. Culmen 0·6, wing 2·65, tail, 3·82, tarsus 0·9 inch.

Hab. Turkestan east to the valley of the Tarim and the Lob-nor, where it is resident.

Frequents dense bush thickets amongst which it creeps like a mouse and appears to prefer those composed of *Halimodendron* and *Nitraria schoberi.* It runs swiftly on the ground amongst the roots of the bushes, where it probably obtains its food which consists chiefly at least in the autumn and winter of the berries of *Nitraria schoberi.* In the desert it is generally found on the oases where there are bushes. In flight it makes a noise with the wings reminding one of a Hazelgrouse rising. Its call-note is a whistle and a peculiar harsh sound, and its song which is clear and pleasing, is usually heard in the morning and evening as late as November. In the autumn and winter they range about in small parties of 3–7 individuals. It breeds in April and places its nest in a dense bush about four feet above the ground, and constructs it of grass straws sheep's wool and a few horsehairs. Prjevalsky found a nest in August containing young, but the eggs of this species are as yet unknown.

PTERORHINUS, Swinhoe, 1868.

208. DAVID'S BABBLER.

PTERORHINUS DAVIDI.

Pterorhinus davidi, Swinh., Ibis, 1868, p. 61 : Gould, B. of Asia, iii. pl. 55 ; David and Oust. Ois. Chine, p. 187, pl. 50 ; Pleske, Prjevalsky's Reisen, ii. p. 133 ; Sharpe, Cat. B. Br. Mus. vii. p. 353.

Ad. (Mongolia). Upper parts uniform dark ashy brown ; a short supercilium dull brownish white ; wings brown, the primaries externally margined with pale lavender grey ; central tail-feathers like the back but darker towards the tip, the remaining ones blackish brown ; chin black ; rest of the under parts ashy brown, paler than the back ; bill yellowish, but brown at the base of the upper mandible ; legs liver brown. Culmen 1·05, wing 3·5, tail 5·05, tarsus 1·28 inch.

Hab. South-eastern Mongolia, Ordos, Alaschan, Kan-su, the Upper Chuanche, and the Mountains of North China.

Frequents bushes on the banks of the rivers and is found in the mountains to an altitude of 9,500 feet. In its general habits it is active and sprightly reminding one of *Rhopophilus,* and obtains its food chiefly on the ground. Its call-note is a loud musical whistle something like that of *Rhopophilus,* and its song which is heard chiefly in the morning and evening is short and consists of a few variations of the call-note. It breeds in Mongolia late in April or early in May. The nest is a somewhat loose structure of dry grass, rootlets, and twigs, and is placed in a dense bush not much above the ground. The eggs usually 3 in number are uniform glossy blue green, and measure about 1·1 by 0·75.

TROCHALOPTERUM, Blyth, 1843.

209. ELLIOT'S LAUGHING THRUSH.

TROCHALOPTERUM ELLIOTI.

Trochalopterum ellioti, Verr. Nouv. Arch. Mus. vi. Bull, p. 36 (1870) ; Gould, B. of Asia, iii. pl. 42 ; David and Oust. Ois. Chine, p. 202, pl. 57 ; Pleske, Prjevalsky's Reisen, ii. p. 135 ; Sharpe, Cat. B. Br. Mus. vii. p. 370.

♂ *ad.* (Mongolia). Crown and nape ashy grey ; rest of the upper parts olivaceous brown, the feathers on the rump tipped with rufous ; quills dark ash, the secondaries bluish ash, the primaries with the outer web towards the end pale bluish ash, and at the base broadly margined with dark golden orange ; tail dark ashy, margined with golden brown and conspicuously tipped with white ; lores blackish, sides of head and throat ashy brown, the feathers narrowly tipped with dull white ; rest of under parts earthy brown, the lower abdomen and under tail-coverts pale rusty red ; bill black ; legs rufous ; iris yellowish white. Culmen 0·78, wing 4·15, tail 5·7, tarsus 1·42 inch.

Hab. South-eastern Mongolia, Western China, Szechuen, and Kansu, where it is resident passing the summer in the mountains as high as 11,000 feet and wintering at lower altitudes.

It resembles *Pterorhinus davidi* in general habits and note and like that species frequents bush-covered localities in the mountains and mountain valleys. It is sociable and usually seen in small parties of 4 to 7 and creeps and climbs about the bushes with the greatest ease. Its call-note resembles that of *P. davidi* but when alarmed it utters a note like *prys, prys, prys.* In summer it feeds chiefly on the berries of a species of *Lonicera.* Its nest is usually placed in a barberry bush as high as 7 feet above the ground or lower, and is constructed of strips of birch and *Lonicera* bark, lined with fine roots, and is a loose careless structure. The eggs, usually 4 in number, are blue green marked at the larger end with blackish brown dots, spots, and scratches.

ACCENTOR, Bechst. 1802.

210. ALPINE ACCENTOR.

ACCENTOR COLLARIS.

Accentor collaris (Scop.), Ann. i. Hist. nat. p. 131 (1769) ; Newton, i. p. 296 ; Dresser, iii. p. 29, pl. 99 ; Sharpe, Cat. B. Br. Mus. vii. p. 661 ; Saunders, p. 95 ; Lilford, iii. p. 2, pl. i. ; *A. alpinus*, Naumann, iii. p. 940, Taf. 92, fig. 1 ; Hewitson, i. p. 96, pl. xxvii. fig. 2 ; Gould, B. of E. pl. 99 ; id. B. of Gt. Brit. ii. pl. 54.

Fauvette des Alpes, French ; *Alpen Flühvogel*, German ; *Serrano*, Span.; *Sordone*, Ital.

♂ *ad.* (Alps). Upper parts dull ashy grey, head and neck striped with darker grey, and back with dark brown ; quills dark brown, externally margined with ashy brown and tipped with white, inner secondaries and scapulars with inner web margined with rufous ; wing-coverts blackish with apical white spots; tail dark brown all but the centre feathers with a white terminal patch on the inner web; chin and throat white, spotted with black; rest of the under parts ashy grey, the flanks light chestnut red, margined with white; under tail-coverts blackish brown tipped with white; bill blackish brown, yellowish at the base; legs cinnamon brown; iris brown. Culmen 0·55, wing 4·1, tail 2·9, tarsus 1·0 inch. Sexes alike, but the young have the feathers on the back with rufous margins, the under parts are duller and the spotted white gorget is absent.

Hab. The mountains of Central and Southern Europe east to Asia Minor; has occurred as far north as Heligoland and has been obtained on several occasions in Great Britain.

Frequents high mountains in the summer as high up as the snow-line, and descends into the valleys in the winter. It is not shy and hops about amongst the stones and bushes like our Hedge-sparrow, and has been found in small flocks not only in the winter but in colonies in the breeding season. It feeds on insects of various kinds and seeds of alpine plants. Its call-note resembles the syllables *tri, tri, tri,* and its song is a rich liquid *chick, ich, ich, ich.*

Its nest, which is placed under the ledge of a rock or under a low bush on the ground, is constructed of grass-bents, roots, and a few lichens, or moss, lined with the same materials or occasionally a few feathers. The eggs 4–5 in number are usually deposited in June and resemble those of the Hedge-sparrow (*A. modularis*), but are larger, measuring about 0·92 by 0·64.

211. SUBSP. ACCENTOR ERYTHROPYGIUS.

Accentor erythropygius (Swinhoe), P. Z. S., 1870, p. 124, pl. 9; Gould, B. of Asia, iv. pl. 43; David and Oust, Ois. Chine, p. 178; Sharpe, Cat. B. Br. Mus. vii. p. 663; Tacz. F. O. Sib. O. p. 221.

Ad. (E. Siberia). Differs from *A. collaris* in having the head and neck slightly darker, the flanks more rufous, and the rump and upper tail-coverts dull rusty instead of grey. Culmen 0·52, wing 4·25, tail 3·22, tarsus 0·95 inch.

Hab. The mountains of Eastern Siberia, and as far south as near Pekin; also Japan.

In general habits it does not differ from *Accentor collaris* and also inhabits rocky mountainous localities at considerable elevations, retiring down into the valleys or passing further south in the late autumn. It breeds in the Chamardaban mountains in the southern Baikal district, and its nest and eggs doubtless resemble those of *A. collaris*, but so far as I know they have not yet been obtained.

212. SUBSP. ACCENTOR RUFILATUS.

Accentor rufilatus, Severtz. Zap. Turk. Otd. i. p. 45 (1879); Sharpe, Cat. B. Br. Mus. viii. p. 664; Pleske, Prjevalsky's Reisen, ii. p. 140, Taf. iv. fig. 4.

Ad. (Turkestan). Differs from *A. collaris* in having the scapulars rusty red, the rump unstriped, and the flanks deep rusty red; bill blackish, the lower mandible yellowish at the base; legs brownish flesh; iris brown. Culmen 0·6, wing 3·9, tail 2·5, tarsus 0·9 inch. First quill shorter than the coverts, second equals the sixth, the third, fourth, and fifth longest.

Hab. Turkestan to the neighbourhood of Gilgit and Northern Kashmir.

Nothing is on record respecting its general habits which probably do not differ from those of *A. collaris*, and its nest and eggs are as yet unknown, but it is said to breed in July in Turkestan.

213. HIMALAYAN ACCENTOR.

ACCENTOR HIMALAYANUS.

Accentor himalayanus, Blyth, J. As. Soc.-Beng. xi. p. 187 (1842); Oates, F. Brit. Ind. Birds, ii. p. 168; *A. altaicus*, Brandt, Bull. Soc. St. Petersb. i. p. 365 (1843); Gould, B. of Asia. iv. pl. 49; Sharpe, Cat. B. Br. Mus. vii. p. 660.

Ad. (Altai). Somewhat resembles *A. collaris*, but has the upper parts browner in tinge of colour; the back and scapulars are black, margined with rufous; upper tail-coverts and tail dark brown, margined with rufous; middle of chin and throat white, the sides banded with white, the feathers on the lower part tipped with black forming a small collar; feathers of the rest of under parts rusty red, margined with white, the middle of the abdomen nearly pure white; bill black, fleshy at the base; legs fleshy brown; iris red. Culmen 0·48, wing 3·7, tail 2·4, tarsus 0·85 inch. Sexes alike. The young bird has less black on the back and the rufous is duller; the throat is dull while spotted with grey; the breast dull yellowish buff striped with brown, and the rest of the under parts are dull isabelline, the under tail-coverts brown in the middle.

Hab. The Altai range, eastern Siberia, Turkestan, the Baikal mountains, and the Himalayas from Chamba and Gilgit to Sikhim; resident almost throughout its range descending to lower altitudes for the winter.

In general habits it agrees closely with *Accentor collaris*, and like that species frequents wild rocky localities in the mountains. Its nest and eggs are, so far as I know, not known but probably resemble those of *A. collaris*.

214. RUFOUS-BREASTED ACCENTOR.

ACCENTOR STROPHIATUS.

Accentor strophiatus, Hodgson, J.A.Soc. Beng. xii. p. 959 (1843) ; Gould, B. of Asia, iv. pl. 47 ; Oates, F. Brit. Ind. Birds, ii. p. 171 ; Sharpe, Cat. B. Br. Mus. vii. p. 658 ; *A. multistriatus*, David Ann. and Mag. Nat. Hist. (4) vii. p. 256 (1871).

Phooching-pho, Lepch.

♂ *ad.* (Himalayas). Entire upper parts rufous brown broadly streaked with black ; wings and tail dark brown, the former externally margined with rufous ; lores cheeks and ear-coverts black ; a broad white supercilium in front of the eye, rich rusty behind, above margined with black ; chin and throat white spotted, chiefly on the sides, with black ; breast deep rusty red ; middle of abdomen whitish ; rest of the under parts reddish brown streaked with black ; bill black ; legs reddish brown ; iris dark brown. Culmen 0·58, wing 2·55, tail 2·3, tarsus 0·8 inch. Female similar but has the breast streaked with black.

Hab. The Himalayas from Sikhim and Nepal to Kotgarh, Tibet, the mountains in the province of Kan-su, and the upper Chuanche.

Frequents wild rocky localities at considerable altitudes during the summer, retiring to the valleys or in some cases further south at the approach of winter. Its nest, which is placed on the ground amongst tufts of grass, is constructed of fine roots and moss, lined with sheep's wool and yakshair, and its 3 or 4 eggs are pale sky blue, spotless, measuring about 0·74 by 0·54. The breeding season is from May to August.

In the Himalayas from Gilgit to Mussoore a nearly allied species *A. jerdoni*, Brooks, occurs, which differs in having the back only and not the head and neck striped, and the hinder part of the supercilium and breast are pale rufous, not deep ferruginous.

215. REDBREASTED ACCENTOR.

ACCENTOR RUBECULOIDES.

Accentor rubeculoides, Moore, P.Z S. p. 118, 1854 (ex. Hodgs. MSS.) ; Gould, B. of Asia, iv. pl. 46 ; Sharpe, Cat. B. Br. Mus. vii. p. 657 ; Oates, F. Brit. Ind, Birds. ii. p. 169 ; Pleske, Prjevalsky's Reisen, ii. p. 147.

♂ *ad.* (Sikhim). Head and neck greyish brown ; back scapulars and rump reddish brown broadly streakod with black ; upper tail-coverts plain brown ; tail brown with paler margins ; quills brown with rufous margins, the inner secondaries and wing-coverts darker with broad rufous margins, the latter tipped with white; chin and throat ashy brown with darker bases; breast deep ferruginous; abdomen whitish; flanks and under tail-coverts pale rufous streaked with brown; bill black; legs reddish brown; iris pale brown. Culmen 0·6, wing 3·25, tail 2·9, tarsus 0·9 inch. Sexes alike.

Hab. The Himalayas from Eastern Kashmir and Ladak to Sikhim, Tibet, and the Koko-nor and Tetung mountains in Mongolia, where it is resident.

It passes the summer in high altitudes descending to the valleys in the winter. Its song is said to resemble that of *Ruticilla aurorea,* but has a peculiar tone like the rustling of dry leaves. According to Prjevalsky it breeds in the mountains of Kan-su, on the upper Chuanche and on the Dy-tschu river but its nest and eggs are, so far as I know, as yet undescribed.

216. Black-throated Accentor.

ACCENTOR ATRIGULARIS.

Accentor atrigularis, Brandt. Bull. Acad. St. Petersb. ii. p. 140 (1844); Gould, B. of Asia, iv. pl. 48; Sharpe, Cat. B. Br. Mus. vii. p. 606; Pleske, Prjevalsky's Reisen, ii. p. 156; Dresser, ix. p. 109, pl. 654, fig. 2; Oates, F. Brit. Ind. Birds, ii. p. 170; *A. huttoni,* Moore, P.Z.S. p. 119, 1854.

♂ *ad.* (Turkestan). Upper parts ashy hair-brown, striped with blackish brown, the crown darker, the sides blackish; rump plain brown; wings and tail brown, margined with fulvous; superciliary stripe buff; throat and sides of the head black; rest of under parts ochraceous buff, the flanks and under tail-coverts striped with brown; abdomen nearly white; bill blackish brown, fleshy at the base; legs fleshy brown; iris dark brown. Culmen 0·5, wing 2·95, tail 2·7, tarsus 0·82 inch. Female slightly duller in colour. In the winter the black on the throat is obscured by buffy white margins.

Hab. The Kirghis steppes, Turkestan, Samarkand, the Altai range, occurring as far west as Orenburg, ranging in winter to Afghanistan, the N. W. Himalayas, and the Punjab salt range.

They are usually seen in pairs and are not shy. Scully met with it in winter in orchards where they were running about on the sward near rose-bushes. It is said to breed in the Altai range and Eastern Turkestan, but so far as I can ascertain there is no authentic record of its nidification. Eggs said to belong to this species resemble those of *Accentor modularis.*

217. BROWN ACCENTOR.

ACCENTOR FULVESCENS.

Accentor fulvescens, Severtzoff, Turk. Jevot. pp. 66, 132 (1873); Sharpe, Cat. B. Br. Mus. vii. p. 655; Dresser, ix. p. 105, pl. 654, fig. 1; Pleske, Prjevalsky's Reisen, p. 145; Oates, F. Brit. Ind. Birds, ii. p. 171; Tacz. F. O. Sib. O. p. 220; *A. dahuricus*, Tacz. Bull. Soc. Fr. 1876, p. 144; *A. ocularis*, Radde, Orn. Cauc. p. 244, pl. xiv.

♂ *ad.* (Turkestan). Resembles *A. montanellus*, but the back is pale fulvous brown, the flanks uniform, unstriped or very slightly so, and the under parts paler, the throat nearly white. Culmen 0·5, wing 3·05, tail 2·6, tarsus 0·8 inch. Female slightly duller in colour, and the supercilium narrower. In the autumn the plumage is paler and duller and the under parts are warmer clay-buff in tinge.

Hab. Siberia (Irkutsk and the Argun River), Turkestan, Mongolia, and Tibet; the Himalayas; Sikhim in winter.

In habits it is said to resemble *A. montanellus*, and frequents similar localities. Nothing is known respecting its nidification.

218. MOUNTAIN ACCENTOR.

ACCENTOR MONTANELLUS.

Accentor montanellus, (Pall.) Reis. Russ. Reichs. iii. p. 695 (1776); Naum. iii. p. 949, taf. 92, fig. 2; Gould, B. of E. ii. pl. 101; id. B. of Asia, iv. pl. 41; Dresser, iii, p. 35, pl. 100; Sharpe, Cat. B. Br. Mus. vii. p. 653; *A. temmincki*, Brandt, Bull. Acad. N. Sc. St. Petersb. ii. p. 39.

♂ *ad.* (Siberia). Upper parts rufous, streaked with greyish brown, the crown plain ashy brown, the rump ashy brown, also unstreaked; wings dark brown the feathers margined with dull chestnut; tail ashy brown with paler margins; sides of the crown, lores, sides of the head and ear-coverts black; a broad yellowish buff band passes over the eye round the ear-coverts to the neck joining the same colour on the sides of the throat; under parts ochreous buff, the abdomen nearly white; flanks and under tail-coverts striped with brown; bill blackish; legs light brown; iris yellowish brown. Culmen 0·5, wing 2·85, tail 2·6, tarsus 0·75 inch. Female rather duller and paler, and the summer plumage is paler than that assumed in the autumn.

Hab. From the Ural through Siberia as far east as the sea of Japan, south to Southern Russia, Turkestan, Mongolia,

N. China and Corea; as a straggler has been met with in Austria.

Frequents bush-covered localities, gardens, and the borders of streams in the valleys, and in general habits does not differ much from the Hedge Accentor. Its call note is a low whistle and its song is short and unpretentious but pleasant, and the Chinese near Peking keep it as a cage bird. It breeds in Siberia, and its nest and eggs have been taken on the Yenesei. The nest, which is constructed of small twigs and dry grass lined with moss and a few hairs, is placed either low down, in the stump of an old tree near the ground, or as high as about eight feet above the ground in the fork of a willow, and the eggs 4 to 6 in number closely resemble those of the Hedge Accentor.

219. HEDGE-SPARROW.

ACCENTOR MODULARIS.

Accentor modularis, (Linn.) Syst. Nat. i. p. 329 (1766); Naum. iii. p. 951, Taf. 92, figs. 3, 4; Hewitson, i. p. 97, pl. xxvii. fig. 1; Gould, B. of E. ii. pl. 100; id. B. of Gt. Brit. ii. pl. 55; Newton, i. p. 301; Dresser, iii. p. 39, pl. 100; Sharpe, Cat. B. Br. Mus. vii. p. 649; Saunders, p. 93.; Lilford, iii. p. 4. pl. 2; *A. orientalis*, Sharpe, op. cit. p. 652.

Mouchet, French; *Churruca*, Span.; *Passera scopaiola*, Ital.; *Hecken-Braunelle*, German; *Boeren-Nachtegall*, Dutch; *Brunellen*, Dan.; *Jernspurv*, Norweg.; *Jernsparf*, Swed.; *Rautiainen*, Finn.; *Lisnaya-Zavirooshka*, Russ.

♂ *ad*. (England). Upper parts reddish brown streaked with dark brown, the head and nape greyer, the rump dull olive-brown scarcely streaked; wings and tail brown, the former margined with buffy brown and rufous brown, the wing-coverts tipped with yellowish brown; throat greyish white; sides of head and neck, and the breast ashy grey; ear-coverts washed with brown; abdomen greyish white; flanks pale brown streaked with darker brown; bill blackish brown, fleshy at the base; legs dull yellowish brown; iris dark brown. Culmen, 0·5, wing 2·7, tail 2·2 tarsus 0·75 inch. Sexes alike.

Hab. Europe generally, north to Lapland; North Africa; Arabia, Asia Minor, and east to Persia.

Frequents groves, gardens, &c., and is very tame and familiar, frequenting localities inhabited by man, and is one of our best-known birds. It is generally seen creeping about in the hedgerows where it finds a plenteous supply of small insects and seeds which form its food. Its song is short but clear and pleasantly modulated. It breeds from March to May and its nest, which is usually placed in a hedge or bush, is constructed of dry grass and moss, and lined with hair or wool. The eggs from 5 to 6 in number are glossy greenish blue unspotted and average about 0·78 by 0·54 in size. Two broods are usually raised in the season.

Dr. Sharpe has (l.c.) separated the Persian bird from the European, naming the former *A. orientalis,* but I cannot find any specific difference between birds from these two localities.

220. JAPANESE ACCENTOR.

ACCENTOR RUBIDUS

Accentor rubidus, Temm. and Schlegel. Faun. Jap. p. 69, pl. 32 (1850); Sharpe, Cat. B. Br. Mus. vii. p. 652; Seebohm, B. Jap. Emp. p. 56; *A. fervidus*, Sharpe, tom. cit. p. 653.

♂ *ad.* (Japan). Differs from *A. modularis* in having the head and neck uniform reddish brown, unstriped; the back rufous, marked with blackish brown, the under parts dull brownish grey; clearer on the abdomen, the flanks not streaked; bill blackish; legs brownish flesh; iris hazel. Culmen 0·53, wing 2·6, tail 2·2, tarsus 0·75 inch. Sexes alike.

Hab. Northern Japan where it is resident.

In habits the Japanese bird does not differ greatly from our European Hedge-Sparrow. It is found in the plains and also on the mountains as high as 8,000 feet, and frequents the scrub-willows, and has a sparrow-like chirping note. Its breeding habits and nest do not differ from those of the European form.

221. KOSLOV'S ACCENTOR.

ACCENTOR KOSLOVI.

Accentor koslovi, Prjev. Novi. bidi. ptitz. Centr. Asie. Zap. Imp. Akad. Nayk, lv. p. 83 (1887); Pleske, Prjevalsky's Reisen, ii. Vög. p. 143; *A. pallidus*, Menzbier, Ibis, 1887, p. 299, pl. ix.

Ad. Upper parts brownish isabelline striped with dark brown, these being paler on the head and nape; rump unstriped; wings and tail brown externally margined with brownish isabelline; two white bands cross the wing; throat brownish smoke-grey with whitish tips to the feathers; ear-coverts slightly yellower than the throat, rest of under parts dirty white, the feathers on the breast brown at the base; flanks striped with brownish isabelline; bill brown paler below and at the base; legs flesh coloured;

iris light brown. Culmen 0·55, wing 2·91, tail 2·87, tarsus 0·82 inch; second quill equal to the 7th or sometimes longer, 4th and 5th longest. Sexes alike, but the young have the brown on the upper and under parts more pronounced.

Hab. N.W. Mongolia; Alaschan, Urga, Kobdo, and the Gobi district.

Nothing is on record respecting its habits or nidification; but it is supposed to breed in southern Siberia and in the wooded mountains bordering the Gobi, such as the Alaschan and Muni-ula ranges.

PANURUS, Koch, 1816.

222. Bearded Reedling.

PANURUS BIARMICUS.

Panurus biarmicus, (Linn.) Syst. Nat. i. p. 342 (1766); (Naum.) iv. p. 98, Taf. 96; (Hewitson), i. p. 161, pl. xl. fig. 3; (Gould), B. of E. iii. pl. 158; (id.) B. of Gt. Brit. ii. pl. 30; Newton, i. p. 511; (Dresser), iii. p. 49, pl. 102; Gadow, Cat. B. Br. Mus. viii. p. 77; Saunders, p. 99; Lilford, ii. p. 93, pl. 43.

Mésange à moustaches, French; *Bigotudo, Chahuet*, Span.; *Basettino*, Ital.; *Bart-Rohrmeise*, German; *Bardmannetje*, Dutch; *Skjægmeise*, Dan.; *Usataya-sinitsa*, Russ.

♂ *ad.* (Holland). Head clear blue-grey; lores, a demi-eyebrow and an elongated moustache black; back rich fawn; scapulars white tinged with fulvous; quills brown margined with white and fawn; primary and median coverts black, edged with white and fawn; tail rusty red the external feathers edged and tipped with grey; throat and upper breast greyish white, the sides of the latter delicate pink; abdomen fulvous white; flanks fawn; vent and under tail-coverts black; bill and iris orange-yellow; legs black. Culmen 0·35, wing 2·35, tail 3·3, tarsus 0·75 inch. The female lacks the black moustache and has the vent and under tail-coverts fawn, the upper parts greyish fawn tinged with rufous, the under parts duller than in the male, the lores and cheeks dirty white, and the throat and abdomen greyish white. The young bird resembles the female but has the crown and back striped with black.

Hab. Europe as far north as southern Denmark and Great Britain, south to the Mediterranean; Asia Minor, southern Russia, east to Turkestan and Mongolia, where it has been obtained on the Koko-nor. In England it is now rare, except on the Norfolk Broads, and resident.

Frequents marshes and fens where there are large reed-beds, and feeds on aquatic insects in summer and seeds, chiefly those of the common reed, in winter. Its flight is short and low, only just clearing the reed-tops. Its note is musical, and has been described as *ping, ping* and *zit, zit*, and during the breeding-season *zit-zrrrr.*

It breeds in April and again in July or early in August. The nest is placed amongst the reeds close to the ground, constructed of dry grasses and reed-fibres, lined with the same but finer materials; is round, the opening small. The eggs, from 4 to 6 or even 7 in number, are white, sparsely covered with irregular reddish brown scratches, and measure about 0·73 by 0·55.

Eastern birds are considerably paler than those from the west, and are by some naturalists considered as subspecifically separable, the eastern form having been named, *P. sibericus* (Bp.), Compt. Rend., 1856, p. 414.

ACREDULA, Koch, 1816.

223. LONGTAILED TITMOUSE.

ACREDULA CAUDATA.

Acredula caudata, (Linn.) Syst. Nat. i. p. 342 (1766); (Naum.) iv. p. 84, Taf. 95, figs. 4, 5, 6; (Gould), B. of E. pl. 157; Dresser, iii. p. 67, pl. 104; Gadow, Cat. B. Br. Mus. viii. p. 59; Saunders, p. 101; Lilford, ii. p. 110, pl. 50; (Tacz.) F. O. Sib. O. p. 443; Seebohm, B. Jap. Emp. p. 87.

Mésange à longue queue, French; *Codona capo bianco*, Ital.; *Schwanzmeise*, German; *Staartmees*, Dutch; *Stjertmeise*, Dan.; *Stjärttita*, Norweg.; *Stjertmes*, Swed.; *Pyrstötiainen*, Finn.; *Dolgovostaya sinitchka*, Russ.

♂ *ad.* (Sweden). Head snowy white; hind neck and back black, the latter with the sides and scapulars vinous red, and the lower part and rump pale rosy red; upper tail-coverts black; wings and tail blackish brown externally margined with white, the outer tail-feathers broadly terminated with white; under parts white washed with vinous on the flanks and under tail-coverts; bill and feet black; iris brown; ring round the eye lemon-yellow. Culmen 0·3, wing 2·5, tail 3·5, tarsus 0·6 inch. Sexes alike. The young have the upper parts brownish black, the centre of the crown white, and the under parts duller than in the adult.

Hab. Northern and central Europe, extending across N. Asia to Kamchatka and Japan, in winter ranging into southern Europe, and occurs as a rare straggler in Great Britain.

In the summer it frequents woods and groves, and in the autumn and winter it collects in family parties or small flocks, and ranges about in the woods and in gardens uttering, when on the wing, a continuous note, *zi, zi, zi*, but it has no regular song. It feeds chiefly on small insects which it obtains on the trees and bushes, but when these are scarce it will eat small seeds. Its nest is one of the most artistic of that of any of our birds, is oval in shape with a hole in the side near the top, is constructed of green moss and lichens carefully worked together with spiders' webs and profusely lined with feathers and hair. The eggs, which are deposited in May, are dull white finely dotted with red, chiefly at the larger end, and average in size about 0·53 by 0·42. In number they vary from 6 to 8, 10 and even 16 or more. The nest is placed in a bush or tree at altitudes varying from two or three to fifty feet above the ground.

Specimens from Siberia have the tail longer, varying from 3·7 to 4·0 inch, and have been separated under the name of *A. macrura*, Seebohm (Brit. B. 1, p. 487.)

224. SUBSP. ACREDULA ROSEA.

Acredula rosea, (Blyth), ed. White's Nat. Hist. of Selb. p. 111. footnote (1836); Gould, B. of Gt. Brit. ii. pl. 28, 29; Dresser, iii. p. 63, pl. 103; Gadow, Cat. B. Br. Mus. viii. p. 61; Saunders, p. 101; *A. caudata*, Hewitson, i. p. 158, pl. xl. fig. 2; Newton, i. p. 504; Lilford, ii. p. 110, pl. 50 (partim).

Codona, Ital.

Ad. (Great Britain). Differs from *A. caudata* in having the middle of the crown only white, bordered on each side by a broad black band extending from the base of the bill over the eye and joining the black on the nape; under parts dull white slightly marked with brown on the breast and sides of the neck; bill and legs black; iris brown, ring round the eye orange-yellow. Culmen 0·3, wing 2·5, tail 3·6, tarsus 0·7 inch; sexes alike.

Hab. The British Isles, and west central Europe to N. Italy, where it meets *Acredula irbii*.

In habits, note, food, and nidification the present species does not differ from *A. caudata*.

225. SUBSP. ACREDULA TRIVIRGATA

Acredula trivirgata, (Temm. and Schlegel). Faun. Jap. Aves. p. 60, pl. 34; Gadow, Cat. B. Br. Mus. viii. p. 62; Seebohm, B. Jap. Emp. p. 87.

Ō-naga, Jap.

ad. (Japan). Differs from *Acredula rosea* merely in having the black supercilium continued across the lores to the base of the bill.

Hab. Japan on the main island.

In habits and nidification it does not differ from *A. rosea.* It breeds on Fuji, and visits the lower country around Tokio and Yokohama in winter.

226. SUBSP. ACREDULA IRBII.

Acredula irbii, Sharpe and Dresser, P.Z.S. 1871, p. 312; Dresser, iii, p. 73, pl. 105, fig. 1; Gadow, Cat. B. Br. Mus. viii. p. 63.

Mito, Span.; *Codibugnolo*, Ital.

Ad. (Spain). Differs from *A. rosea* in having the back bluish grey, not black, slightly tinged with rose on the sides, the centre of the crown usually white striped with black, and the cheeks dull white finely striped with blackish grey. Culmen 0·25, wing 2·32, tail 3·2, tarsus 0·65 inch.

Hab. Spain, Southern Italy, and Sicily, and strays into France.

In note, habits, and nidification it does not differ from *Acredula rosea.* It breeds near Gibraltar, placing its nest 15 or 16 feet above the ground in the *Zarzaparilla*, a thorny creeper, a species of *Smilax*, and its eggs are deposited late in February.

227. SUBSP. ACREDULA CAUCASICA.

Acredula caucasica (Lorenz.) Beitr. Orn. Nords. Kauk. p. 60 Nachtrag. (1887); Dresser, ix. p. 113, pl. 655, fig. 2.

Ad. (Kuban). Crown white, forehead marked with reddish brown, supercilium reddish brown above, blackish brown below; back pale slaty grey, darker on the upper part; upper tail-coverts grey faintly tinged with rose; wings blackish, secondaries margined with white; tail black, all but the central feathers margined and tipped with white, the outermost almost entirely white; under parts white faintly marked with grey on the sides of the breast; bill and feet blackish; iris brown. Culmen 0·3, wing 2·5, tail 3·35, tarsus 0·64 inch.

Hab. The Caucasus where it is resident and not uncommon.

In habits it assimilates closely with its allies, and though its nest and eggs are unknown, they will doubtless be found to resemble those of *A. caudata. Acredula dorsalis* Madarasz, of which I examined the type in Buda-Pest, is not separable from the present sub-species, but *Acredula senex* Madarasz, from the north Caucasus differs in having the head white and the back paler and greyer. Culmen 0·25, wing 2·35, tail 3·1, tarsus 0·55 inch.

228. SUBSP. ACREDULA SICULA.

Acredula sicula, Whitaker, Bull. Brit. Orn. Club. xi. p. 52 (1901); id. Ibis. 1902, p. 54, pl. ii.

♂ *ad.* (Sicily). Resembles *A. caucasica*, differing in having the wings and tail shorter, the brown on the sides of the crown paler, the white median stripe on the crown less pronounced, the feathers there being partly streaked with brown; bill and legs blackish brown; iris dark hazel, eyelid yellowish. Culmen 5·0, wing, 2·25, tail 2·9, tarsus 0·6 inch.

Hab. Sicily.

Appears to be peculiar to Sicily, where it inhabits the wooded inland districts, and breeds in the higher mountain forests. In habits and nidification it is said not to differ from *A. caudata*.

229. SUBSP. ACREDULA MACEDONICA.

Acredula macedonica, Salvad. and Dresser, Bull. B. O. Club, i. p. xv (1892); Dresser, ix. p. 111, pl. 655, fig. 1.

Ad. (Greece). Upper parts as in *A. rosea*, but the black bands on the sides of the crown are conspicuously broader, and extend to the base of the bill; under parts white, sides of the throat faintly striated with grey, and a narrow blackish grey band passes across the breast; the throat being also faintly marked with dark grey; flanks washed with rose; bill and legs black; iris dark brown. Culmen 0·3, wing 2·4, tail 3·5, tarsus 0·6 inch. Sexes alike.

Hab. Resident in Greece, and probably also in Macedonia and Bulgaria.

Respecting its habits and nidification nothing is on record.

230. TURKISH LONG-TAILED TITMOUSE.

ACREDULA TEPHRONOTA.

Acredula tephronota, (Günther), Ibis. 1865, p. 95, pl. 4; Dresser, iii. p. 75, pl. 105, fig. 2; *A. poeltzami*, (Severtz.) Turk. Jevot. p. 135, pl. 8, fig. 1; Gadow, Cat. B. Br. Mus. viii. p. 64.

Ad. (Asia Minor). Resembles *A. irbii*, but has a large blackish grey spot on the centre of the throat; the white on the crown tinged with brown; under parts dull white, with a few indistinct stripes on the breast; flanks vent and under tail-coverts washed with rose-colour ; bill and legs black ; iris light brownish red with an outer bluish white ring, eyelids orange. Culmen 0·3, wing 1·35, tail 2·8, tarsus 0·71 inch. Sexes alike.

Hab. Turkey, the Caucasus and Asia Minor, and as far east as Persia and Turkestan.

In its habits it assimilates closely with the common European species. It breeds in March and April, and places its nest in preference in a yew-tree. Its nest and eggs are undistinguishable from those of *Acredula caudata.*

231. MONGOLIAN LONG-TAILED TITMOUSE.

ACREDULA CALVA.

Acredula calva, Pleske, Prjevalsky's Reisen, ii. Vögel, p. 150, Taf. vii. figs. 1, 2, (1894).

♂ *ad.* (Kan-su). Resembles *A. tephronota*, but has a broad frontal band, the cheeks to above the eye and the ear-coverts pure white ; the crown and nape deep black with a small central patch white, sometimes black with but a faint trace of the central white patch. Culmen 0·3, wing 2·5, tail 3·43, tarsus 0·65 inch. It approaches nearest to *A. glaucogularis*, of which it is a northern form, differing in having the frontal band much broader, pure white instead of ochreous, as are also the cheeks and patch on the crown, the under parts whiter and the tail much longer. Sexes alike. The young bird resembles that of *A. glaucogularis* (and has been described as distinct under the name *A. vinacea* (Verr.) but has a longer tail.

Hab. Kan-su and the valley of the Chuan-che in Mongolia.

It inhabits the lower portion of the forest zone, and does not range in the mountains higher than about 9,000 feet. It prefers the deciduous woods in the river valleys, and is also found in the willow and tamarisk thickets on the river banks. Its nest and eggs are as yet unknown, but Prjevalsky saw fledged young on the Tschurmyn river on the 29th April.

PARUS, Linn., 1766.

232. GREAT TITMOUSE.

PARUS MAJOR.

Parus major, Linn. Syst. Nat. i. p. 341 (1766) ; Naum. iv. p. 9. Taf. 94, fig. 1 ; Hewitson, i. p. 149, pl. xxxix, fig. 1 ; Gould, B. of Gt. Brit. ii. pl. 23 ; Newton, i. p. 479 ; Dresser, iii. p. 79, pl. 106 ; Gadow, Cat. B. Br. Mus. viii. p. 19 ; Tacz. F. O. Sib. O. p. 426 ; Saunders, p. 103 ; Lilford, ii. p. 97, pl. 44.

Mésange-charbonnier, French; *Carbonero, Quive-vive*, Span., *Cinciallegra*, Ital.; *Kohlmeise*, German; *Koolmees*, Dutch; *Musvitsmeise*, Dan.; *Kjödmeise*, Norweg.; *Talgmes*, Swed.; *Talitiitinen*, Finn.; *Obiknovennaya-Sinitchka, Jiroïadka*, Russ.

♂ *ad.* (England). Crown, sides of neck, throat, and a broad line down the centre of the breast glossy black; lower nape citron, back yellowish green; rump and upper tail-coverts slate-grey; wings and tail black margined with slate-grey, larger wing-coverts tipped, and outer tail-feathers margined with white; cheeks and ear-coverts white; under parts citron-yellow; bill and iris black; legs plumbeous. Culmen 0·45, wing 2·95, tail 2·45, tarsus 0·7 inch. Female similar but duller. The young also duller and have the cheeks tinged with yellow.

Hab. The whole of Europe from Lapland down to Algeria; Asia Minor, Palestine east to Persia; Siberia east to Dauria.

Lively and active it appears to be continually on the move in search of food. It frequents gardens, orchards, and woods, feeding chiefly on insects and their larvæ, to some extent also on seeds, and will attack and kill small and weakly birds, open the skull, and devour the brain. In the winter they collect in small family parties, and rove about the country. The nest is placed in the hole of a tree or wall, or any similar suitable place, and is usually bulky, consisting of a foundation of dry moss or grass, on which is a soft bed of hair, wool, or feathers, and the eggs, which are generally deposited in April, vary from 6 to 10 in number, and are white, spotted and blotched with red, measuring about 0·7 by 0·51.

233. SUBSP. PARUS APHRODITE.

Parus aphrodite, Madarasz, Termesz. Füsetek. 1901, p. 272.

♂ *ad.* (Cyprus). Is intermediate in appearance between *Parus major* and *minor*, differing from the latter in having the under parts yellower. Culmen 0·5, wing 2·67, tail 2·38, tarsus 0·8 inch. The female is rather yellower than the male.

Hab. The island of Cyprus, where it is resident.

In habits and nidification it is said not to differ from *P. major*.

234. JAPANESE TITMOUSE.

PARUS MINOR.

Parus minor, Temm. and Schlegel, Faun. Jap. Aves. p. 70, pl. 33 (1850); Gould, B. of Asia, ii. pl. 56; Gadow, Cat. B. Br. Mus. viii. p. 15.

♂ *ad.* (Japan). Differs from *P. major* by its smaller size, in having the under parts white with a creamy tinge, and on the occiput a tiny white patch between the black of the crown and the yellow on the neck. Culmen 0·48, wing 2·72, tail 2·38, tarsus 0·65 inch. Female similar but is rather duller.

Hab. The Ussuri country in eastern Siberia, Manchuria, Mongolia, northern China, and Japan.

In general habits it does not appreciably differ from *P. major*, and its nest and eggs resemble those of that species, but the latter are somewhat smaller.

235. INDIAN GREY TITMOUSE.

PARUS CINEREUS.

Parus cinereus, Vieill. Tabl. Encycl. and Méthod. ii. p. 506 (1820); Gould, B. of Asia, ii. p. 55; Dresser, ix. p. 115, pl. 656, fig. 1; Gadow, Cat. B. Br. Mus. viii. p. 16; *P. atriceps*. Horsf. Trans. Linn. Soc. xiii. p. 160 (1822); Oates, F. Brit. Ind. Birds, i. p. 46.

Ram-gangra, Beng.

♂ *ad.* (Germab.). Differs from *P. minor* in having the back and rump slaty blue grey, the upper back very faintly tinged with apple-green; under parts excepting the black central stripe white. Culmen 0·5, wing 2·9, tail 2·5, tarsus 0·8 inch. Sexes alike. The young have the upper parts tinged with yellow and the under parts with buff.

Hab. Transcaspia to China, and from the Himalayas down through the Malay peninsula to the islands of the Malay Archipelago. In China it nests, and is said to interbreed with *P. minor*.

In habits it resembles *P. major*, and like that species feeds chiefly on insects. Its call is a sharp two-note whistle frequently repeated. It breeds from March to June, placing its nest in the hole of a tree, bank or wall, and occasionally on the branch of a tree. The nest is constructed of moss, grass, hair, and feathers, and the eggs 5 to 6 in number, are white, blotched chiefly at the larger end with light red.

236. SUBSP. PARUS BOKHARENSIS.

Parus bokharensis, Licht. in Eversm. Reise n. Buchara, p. 131 (1823); Gadow, Cat. B. Br. Mus. viii. p. 16; Dresser, ix. p. 119, pl. 656, fig. 2.

♂ *ad.* (Dzungaria). Differs from *P. cinereus* in being larger, the upper parts much paler and the sides of the neck are white, not black; beak black; legs plumbeous; iris dark brown. Culmen 0·55, wing 3·0, tail 3·35, tarsus 0·85 inch. Female similar but a trifle smaller.

Hab. Resident in Transcaspia, Afghanistan, and Turkestan.

Frequents woods and groves, usually near water, both in the plains and mountains, and in general habits resembles *Parus major*, but its note is louder. It breeds in April in the holes of trees, frequently in the old nest-holes of woodpeckers. The nest is composed of fine tamarisk twigs and the wool of various animals, or of rotten wood and feathers, and the eggs resemble those of *P. major*.

237. Coal Titmouse.

PARUS ATER.

Parus ater, Linn. Syst. Nat. i. p. 341 (1766); Naum. iv. p. 34, Taf. 94, fig. 2; Gould, B. of E. iii. pl. 155, fig. 1; Newton, i. p. 489; Dresser, iii. p. 87, pl. 107, fig. 3; Gadow, Cat. B. Br. Mus. viii. p. 40; Saunders, p. 105; Lilford, ii. p. 104, pl. 46.

Mésange noire, French; *Garrapinos*, Span.; *Cincia mora*, Ital.; *Tannenmeise*, German; *Zwarte Mees*, Dutch; *Sortmeise*, Dan.; *Kulmeise*, Norweg.; *Svartmes*, Swed.; *Mustatiitinen*, Finn.; *Tchernaya-Sinitchka*, Russ.; *Sosnovka*, Polish.

♂ *ad.* (Sweden). Crown, sides of the neck, and throat black; cheeks and a large muchal patch white; upper parts clear slaty blue; under parts white, the flanks washed with buff; wings and tail blackish, externally margined with grey; median and greater wing-coverts tipped with white, forming two alar bars; bill black; legs plumbeous; iris brown. Culmen 0·4, wing 2·4, tail 2·0, tarsus 1·65 inch. Sexes alike. The young have the black portions duller, the upper parts washed with olivaceous, the nape, cheeks, and under parts yellowish.

Hab. Europe from about 64° to 65° N. Lat. to the Mediterranean; Siberia; Asia Minor and Central Asia to northern China and Japan; rare in Great Britain.

In its habits it is lively and active, continually on the move, flitting amongst the branches, clinging to the twigs in every position, often head downwards. Its flight is short, laboured, jerky, and rather weak, and its note is a clear, shrill *che-chee, che-chee*, audible at a considerable distance. Its food consists almost entirely of insects and their larvæ worms, and caterpillars, which it picks from the branches of trees or from the ground. Its nest, which is constructed of grass and moss, lined with hair, feathers, or wool, is placed in the hole of a tree or wall, or occasionally in a hole in the ground, and the eggs, 6 to 9, or even more in number, are deposited in April or May, and are white, marked, chiefly at the larger end, with dark red spots and blotches, and measure about 0·58 by 0·45.

In eastern Asia these birds frequently have the occipital feathers slightly elongated, and have been separated (*P. pekinensis*, David), but this is by no means a constant difference.

238. SUBSP. PARUS BRITANNICUS.

Parus britannicus, Sharpe and Dresser, Ann. and Mag. Nat. Hist. (4), viii. p. 437 (1871); Newton, i. p. 492; Dresser, iii. p. 93, pl. 107, fig. 2; Gadow, Cat. B. Br. Mus. viii. p. 43; Hewitson, i. p. 155, pl. xxxix. fig. 4; Saunders, p. 105; Lilford, ii. p. 104, pl. 47.

Ad. (England). Differs from *P. ater* in having the back olive-grey, the rump clear buff, and the flanks and under tail-coverts brownish buff. Culmen 0·4, wing 2·3, tail 1·7, tarsus 0·7 inch.

Hab. Great Britain.

In habits, note, and nidification this bird does not differ from *P. ater.*

239. SUBSP. PARUS CYPRIOTES.

Parus cypriotes, Dresser, P. Z. S. 1867, p. 563; id. B. of E. ix. p. 123, pl. 658.

Ad. (Cyprus). Resembles *P. britannicus*, differing in having the nuchal patch much smaller, and the black extending much further down the throat. Culmen 0·6, wing 2·3, tail 1·9, tarsus 0·75 inch. The young bird differs in having the crown brownish black, the throat dull sooty, the white portions of the plumage washed with yellowish buff, and the flanks browner than in the adult.

Hab. The island of Cyprus.

Inhabits the pine trees on Cyprus at an elevation of 4,000 feet, where it was met with in small parties of five or six, and was not numerous. Its note is a feeble edition of that of *P. ater*, from which species it does not differ in habits.

Its nest and eggs are as yet unknown.

240. PERSIAN COAL TITMOUSE.

PARUS PHÆONOTUS.

Parus phæonotus, Blanford, Ibis, 1873, p. 88 ; Gadow, Cat. B. Br. Mus. viii. p. 44 ; Dresser, ix. p. 121, pl. 657 ; *P. michailowskii*, Bogdanoff, Ptits. Kavkasa, p. 87 (1889) ; Gadow, op. cit. p. 43.

Buraja-Gaitschka, Kavkaskaya-Gaitschka, Russian.

Ad. (Tiflis). Resembles *P. britannicus*, but is larger, the upper parts rather paler, the flanks warm brownish isabelline, and the centre of the abdomen pure white. Culmen 0·53, wing 2·7 tail 2·05, tarsus 0·75 inch. The young bird has the upper parts duller and darker, the white portions of the plumage tinged with buffy yellow, and the flanks darker.

Hab. The Caucasus, Transcaspia, and Persia ; resident.

In the summer it inhabits the mountains to an elevation of 7,000 feet, descending to the plains in winter. It frequents both conifer and deciduous groves and woods, and in general habits and note does not differ from *P. ater*.

Its nest and eggs are as yet unknown.

241. SUBSP. PARUS RUFIPECTUS.

Parus rufipectus, Severtz. Turk. Jevot. p. 134 (1873) ; Gadow. Cat. B. Br. Mus. viii. p. 44 ; Pleske, Prjevalsky's Reisen, Vögel, p. 155, Taf. ix. fig. 1 ; *P. piceæ*, Severtz. J. f. O. 1873, p. 346.

Ad. (Turkestan). Differs from *P. phæonotus* in being rather smaller, in having the black extending rather further down on the back, the upper part of the back being slaty blue, and only the lower back and the rump olivaceous grey ; spots on the median wing-coverts and the under parts generally pale rufous, fading into buffy rufous on the middle of the abdomen. Culmen 0·4, wing 2·32, tail 1·65, tarsus 0·7 inch.

Hab. Eastern Turkestan.

In habits the present species does not differ from *P. ater ;* its nest and eggs are not known.

242. ALGERIAN COAL TITMOUSE.

PARUS LEDOUCII.

Parus ledoucii, Malherbe, Cat. Ois. Alg. in Mém. de la Soc. d'Hist. Nat. de la Moselle, p. 45 (1842) ; Dresser, iii. p. 85, pl. 107, fig. 1 ; Gadow, Cat. B. Br. Mus. viii. p. 44.

Bou-reziza, Arabic.

♂ *ad.* (Algeria). Resembles *P. ater*, but the cheeks, ear-coverts, and sides of the neck are bright lemon-yellow; the nuchal patch yellowish white; the back greenish grey, with a tinge of olive, rather brighter on the rump, and the under parts lemon-yellow. Culmen 0·4, wing 2·5, tail 2·0, tarsus 0·75 inch.

Hab. Algeria.

It inhabits the evergreen oak woods and conifer groves, and is not uncommon. In its general habits it resembles *P. ater*, but its note is described as peculiar, being something between the loud bell-like note of *P. major* and the well-known call of *P. ater*. It breeds like its congeners in holes in trees, and its eggs resemble those of *P. ater*, but the spots are, as a rule, smaller.

243. MARSH TITMOUSE.

PARUS PALUSTRIS.

Parus palustris, Linn. Syst. Nat. i. p. 341 (1766); Naum. iv. p. 50, Taf. 94, fig. 2; Hewitson, i. p. 157, pl. xl. fig. 1; Gould, B. of E. iii. pl. 155, fig. 2; id. B. of Gt. Brit. ii. pl. xxvii; Newton, i. p. 495; Dresser, iii. p. 99, pts. 108, 109, figs. 1, 2; Gadow. Cat. B. Br. Mus. viii. p. 49; Saunders, p. 107; Lilford, ii. p. 106, pl. 46; *P. meridionalis*, Liljeb. Naumannia, ii. p. 100 (1852); *P. dresseri*, Stejneger, Proc. U.S. Nat. Mus. ix. p. 200 (1886).

Mésange nonnette, French; *Herrerillo*, Span.; *Cincia-bigia*, Ital.; *Sumpfmeise*, German; *Zwartkopmees*, Dutch; *Sumpmeise*, Dan. and Norweg.; *Kärrmes*, Swed.; *Ko-gara*, Jap.; *Bolotnaya sinitchka*, Russ.

♂ *ad.* (Sweden). Crown to beyond the occiput and upper throat deep black with a strong gloss; upper parts greyish brown, tinged with olive, paler on lower back and rump; wings and tail greyish brown, with paler external margins; tail even; sides of the head and of the neck white; under parts dull white; the flanks and under tail-coverts washed with pale buff; bill blackish; legs plumbeous; iris brown. Culmen 0·35, wing 2·25, tail 1·85, tarsus 0·55 inch.

Hab. Europe, from Scandinavia to the Mediterranean; Asia Minor, and Asia as far east as Japan, subject, however, to slight climatic variations as below stated.

In habits this Titmouse differs but little from its allies, in company with which it is often seen during its winter wanderings. It frequents woods, especially in damp localities, gardens, orchards, hedge-rows, etc., and is less often seen in high forest trees than the Coal Titmouse. It feeds on insects of various kinds, their larvæ and eggs, and to some extent also on seeds. Active and restless, it is extremely sociable, and when wandering about in the autumn and winter, consorts freely with other species of Titmouse and Goldcrests. It is as a rule resident, not migrating in autumn, but only wandering about the country. Its call-note is a long-drawn *pey*, *pey*, and its song, if such it may be termed, *sis*, *sis*, *sis*. Its nest is usually placed in the hole of a tree, generally near the ground, but I have found them at considerable altitudes, sometimes in a deserted rat's hole or other hole in the ground. It is constructed of small twigs, bits of grass, moss, wool, hair, or thistle down, varying in size according to locality, and the eggs from 6 to 10 or even 12 in number are white, spotted with dull red, the spots being sometimes more numerous round the larger end, and are usually deposited in May, but two broods are sometimes reared in the season. In size they average about 0·63 by 0.48.

Few groups have been subjected to more subdivision than the Marsh Titmice, and long articles on them have been published by Messrs. Brehm, De Selys-Longchamps, Fatio-Beaumont, Seebohm, Prazák, Dr. Kleinschmidt, and others, and I may refer my readers who may wish to study the various forms to Dr. Kleinschmidt's article (Orn. Jahrb. 1897, pp. 45–103), as it contains the latest information on the subject. He divides them into two groups, *Parus meridionalis* (*P. palustris*, auctt.) and *Parus salicarius* (*P. borealis*, auctt.), and subdivides the former into the following subspecies, viz. *P. dresseri* (Great Britain), *P. dresseri longirostris* (France and Rhineland), *P. meridionalis subpalustris* (Germany, except the extreme N.E. and extreme W.), *P. meridionalis* (S. Sweden, E. Prussia, Livonia), *P. communis stagnatilis* (Galicia, Siebenbürgen, Servia, Bosnia). *P. communis* (Swiss Alps and Austria), *P. brevirostris* (Irkutsk, Baikal), *P. brevirostris crassirostris* (Sidemi, S.E. Siberia, Ussuri, Corea), *P. seebohmi* (N. Japan, Yesso and Kuriles), *P. hensoni* (S. part of N. Japan, Yesso, Hakodadi, and S. Japan), *P. spec. nov.* (Peking).

After a careful examination of these forms I have elected to unite all the former under *P. palustris*.

244. NORTHERN MARSH TITMOUSE.

PARUS SALICARIUS.

Parus salicarius, C. L. Brehm, Vögel Deutschl. p. 465 (1831); *P. borealis*, De Selys, Bull. Acad. Roy. Bruxelles, 1843, p. 2; Dresser, iii. p. 107, pl. 109, fig. 3; Gadow, Cat. B. Br. Mus. viii. p. 51; *P. alpestris*, Bailly, Bull. Soc. Hist. Nat. Savoie, 1851, p. 22.

Tulltita, Swedish.

Ad. (Norway). Differs from *P. palustris* in having the crown plain black without gloss, the black on the nape continued further down; the back paler and greyer; the secondaries margined with light grey; the tail rounded, not even; and the cheeks whiter. Culmen 0·4, wing 3·45, tail 2·2, tarsus 0·65 inch.

Hab. Norway, Sweden, Finland, N.W. Russia, and the mountains of central Europe; is said to have occurred in England.

Differs but little in habits from the Marsh Titmouse, but its call note is easily distinguishable, being sharper and more elongated as if divided into two notes. It also nests usually in the forests, never by water, and constructs its nest of fine strips of bark and occasionally a few hairs and feathers. The eggs are, however, undistinguishable from those of *P. palustris.* Moreover, the present species makes its own nest hole in an old branch or stump, whereas *P. palustris* makes use of any suitable old hole.

In the article above cited Dr. Kleinschmidt subdivides the Northern Marsh Titmouse as follows, viz. *Parus salicarius* (Central and W. Germany, the Rhine plain between Worms and Bingen), *P. salicarius murinus* (Renthendorf, Germany), *P. salicarius accedens* (mountains of central Germany to French Switzerland at moderate altitudes), *P. montanus* (Alps), *P. montanus assimilis* (Galicia), *P. borealis*, Selys-Longchamps (Iceland), *P. borealis colletti* (W. Norway), *P. palustris*, Wallengren nec. Linn. (Sweden), *P. borealis*, Liljeborg (N. Russia, Archangel), *P. borealis macrurus* (Siberia, N. China), *P. camtschatkensis* (Kamchatka), *P. spec. nov.* (Japan, Hondo, Shimotsuke). Of these I have deemed it advisable only to recognise *P. salicarius* from Scandinavia and N. Russia, *P. macrurus* (*s.n. P. baicalensis*) and *P. camtschatkensis.*

245. SUBSP. PARUS BAICALENSIS.

Parus baicalensis, Swinhoe, Ann. and Mag. N. H. 1871, p. 257; *Parus kamtschatkensis* (nec. Bp.), Dresser, iii. p. 119, pl. 110, Gadow, Cat. B. Br. Mus. viii. p. 51; *P. macrura*, Tacz. F. O. Sib. O. p. 436.

Ad. (Siberia). Differs from *P. borealis* in having the black cap extended down to the back, the back paler and greyer, the sides of the head below the cap and a broad band bordering the cap pure white; secondaries margined with greyish white; tail rather longer than in *P. borealis.* Culmen 0·43, wing 2·52, tail 2·6, tarsus 0·68 inch.

Hab. Siberia, ranging west to the Petchora river.

In general habits it does not differ from *P. borealis*, but its nest is said to resemble that of *P. palustris*. It nests in holes of trees, and either makes use of a suitable hole or bores one for itself. It breeds in May, and its eggs do not differ from those of its congeners.

246. SUBSP. PARUS CAMTSCHATKENSIS.

Parus camtschatkensis (Bp.) Consp. Gen. Av. i. p. 230 (1850); Gadow, Cat. B. Br. Mus. viii. p. 51; (Tacz.) F. O. Sib. O. p. 442.

Ad. (Kamchatka). Differs from *P. baicalensis* in having the black on the nape extending rather farther on the back, which is white tinged with sandy grey; upper tail-coverts pure white; wings and tail rather broadly margined with white; under parts, below the throat and flanks, pure white. Culmen 0·4, wing 2·45, tail 2·23, tarsus 0·73 inch.

Hab. Kamchatka.

Does not differ in habits from *P. baicalensis*, of which it is a paler, northern form. I do not find any description of its nest and eggs.

247. SONGARAN MARSH TITMOUSE.

PARUS SONGARUS.

Parus songarus, Severtz. Turk. Jevot. p. 134 (1873); Gadow, Cat. B. Br. Mus. viii. p. 48 (part.); Pleske, Prjevalsky's Reisen, Vögel, ii. p.157, Taf. viii. fig. 1.

Ad. (Turkestan). Crown and nape black; upper parts generally pale sandy or buffy brown; wings and tail brown, with narrow pale margins; lores, cheeks, and ear-coverts white; chin and throat black, the feathers narrowly tipped with white; rest of the under parts pale whitish isabelline, the sides of breast flanks and under tail-coverts washed with warm ochraceous; bill blackish; legs plumbeous; iris dark brown. Culmen 0·55, wing 2·7, tail 2·38, tarsus 0·75 inch.

Hab. Turkestan, east to the Sairam-nor and Issyk-kul.

Frequents the conifer woods, and in general habits does not differ from the other Marsh Titmice.

248. MONGOLIAN MARSH TITMOUSE.

PARUS AFFINIS.

Parus affinis (Prjev.), Mongol. i Strana Tangut, ii. p. 52 (1876); Berez. and Bianchi, Ptitz Gan-su, p. 111; Pleske, Prjevalsky's Reisen, ii. Vögel, p. 158, Taf. viii. fig. 2.

Ad. (Kan-su). Differs from *P. songarus* in having the crown black with a coffee-brown tinge, not deep black, the throat patch also brownish black, the upper parts paler, more isabelline in tinge, and the under parts rather whiter. Culmen 0·47, wing 2·62, tail 2·48, tarsus 0·7 inch.

Hab. The Njan-shan Mountains, Alaschan, and Kan-su.

Inhabits the conifer and non-evergreen woods, but does not range so high as the alpine bush region. In April they were observed pairing, and early in June the young had left the nests. I do not, however, find any description published of the nest and eggs.

249. SUBSP. PARUS HYPERMELÆNA

Parus hypermelæna, Berez. and Bianchi, Ptitz. Gan-su, p. 112, pl. ii. fig. 2 (1891).

Ad. Crown and nape glossy black, this colour extending on to the back, which is olive-brown, and the rump also, but tinged with sandy; sides of the head and ear-coverts white; wings and tail blackish grey, externally margined with olivaceous; chin and throat dull black; rest of under parts white, the sides of the breast olive-brown, the flanks sandy brown; bill blackish; legs plumbeous; iris dark brown. Culmen 0·36, wing 2·4, tail 1·83, tarsus 0·55 inch. Tail nearly even. It differs from *P. affinis* in being smaller, having a square and not a rounded tail, and in having the crown glossy black, and from *P. palustris* by having more black on the throat (about as much as *P. ater*) in having the black extended further on the back, and in the dark colour of the sides of the breast and flanks.

Hab. Shen-si.

Only two specimens were obtained at Shen-si on the borders of Kan-su and Szechuen, and nothing is known of its habits or nidification.

250. SOMBRE TITMOUSE.

PARUS LUGUBRIS.

Parus lugubris, Natterer fide Temm. Man. d'Orn. p. 293 (1820); Gould, B. of E. iii. pl. 151, fig. 1; Dresser, iii. p. 121, pl. 111; Gadow, Cat. B. Br. Mus. viii. p. 47.

Trauermeise, German; *Cincia dalmatina*, Ital.

♂ *ad.* (Smyrna). Crown, nape, and throat sooty black; upper parts ashy brown; spurious wing and primary coverts blackish brown with greyish white margins; rest of the wings and tail greyish brown, externally margined with whitish; cheeks, ear-coverts, and sides of neck pure white;

rest of under parts dull white, the sides of breast and flanks washed with pale ashy brown; bill blackish; legs plumbeous; iris dark brown. Culmen 0·5, wing 2·8, tail 2·5, tarsus 0·75. Sexes alike.

Hab. Greece, Hungary, Turkey, and Asia Minor east to Persia.

In habits it resembles the other Titmice, does not, however, collect in small flocks in winter, but lives in pairs. Its call-note is also said to differ from that of the other Titmice. It inhabits the plains, but is found tolerably high up in the mountains. It nests in holes of trees either high above or near the ground, and is also said to breed in holes in the rocks. It does not deposit so many eggs as the other Titmice, but never more than 7 or 8. These resemble those of *Parus major*, and measure about 0·71 by 0·55 inch.

251. SIBERIAN TITMOUSE.

PARUS CINCTUS.

Parus cinctus, Bodd. Tabl. Pl. Enl. p. 46 (1783); Dresser, iii. p. 125, pl. 112; Gadow, Cat. B. Br. Mus. viii. p. 35; *P. sibiricus*, Gmel. Syst. Nat. i. p. 1013 (1788); Gould, B. of E. iii. pl. 151, fig. 2.

Lappsk Mes, Swed.; *Lapin-tiainen, Pistitiainen*, Finn.; *Kadapija*, Lapp.

♂ *ad.* (Lapland). Crown and nape dusky brown, the throat blackish; upper parts pale golden brown, slightly washed with rufous; wings and tail blackish, the former externally with narrow whitish margins, the tail washed with grey, the outer feather edged and tipped with dull white; feathers on the lower throat narrowly margined with white; chest and centre of abdomen white; rest of under parts pale rusty rufous; bill blackish; legs plumbeous; iris reddish brown. Culmen 0·4, wing 2·8, tail 2·8, tarsus 0·7 inch. Sexes alike.

Hab. Northern Scandinavia to the margin of the fir belt; north Russia east to the Yenesei.

In its general habits it is active and lively, restless and always on the move, hunting after its insect food. It affects pine-forests, being less seldom seen in non-evergreen growth, and is chiefly to be seen amongst scattered large trees or their young growth. It breeds in June, either excavating its own nest-hole in a dead tree or making use of a deserted Woodpecker's hole. The nest is constructed of moss, wool, hair, and feathers, and the eggs from 6 to 9 in number are white, spotted with pale red underlying shell blotches and dark red surface markings, and measure about 0·65 by 0·52.

Its general call-note resembles than that of *P. borealis*, but is louder and deeper in tone.

252. SUBSP. PARUS OBTECTUS.

Parus obtectus, Cabanis, J. f. O. 1871, p. 237 ; Gadow, Cat. B. Br. Mus. viii. p. 35 ; Turner, Nat. Hist. Alaska, p. 182, pl. x. ; *P. grisescens*, Sharpe and Dresser, B. of E. iii. p. 129 (1871).

Ad. (E. Siberia). Differs from *P. cinctus* in having the crown and upper parts paler and greyer, the back with scarcely any trace of rufous ; under parts white, the flanks faintly washed with warm buff. Culmen 0·48, wing 2·75, tail 2·77, tarsus 0·62 inch.

Hab. Siberia, ranging west as far as the valley of the Yenesei where it meets *P. cinctus ;* occasional in Alaska.

This eastern form of *P. cinctus* does not differ in habits from that species. Godlevski found it numerous on passage in October in the southern Baikal district, consorting with *P. baicalensis*, from which it was easily distinguishable by its harsh call-note. Judging from Turner's plate the Alaskan bird has the flanks a little more rufescent than the Siberian bird.

It has been found breeding in Alaska, and its nest and eggs were taken, but no description of them appears to have been published.

253. WHITE-BROWED TITMOUSE.

PARUS SUPERCILIOSUS.

Parus superciliosus (Prjev.) Mongol i Strana Tangut, ii. p. 53 (1876) ; Pleske, Prjevalsky's Reisen, ii. Vögel, p. 160.

♂ *ad.* (Kan-su). Crown and throat deep black ; upper parts ashy blue-grey, paler towards the nape ; wings and tail blackish, externally margined with ashy grey ; sides of head and neck below the eye and under parts pale rufous, paler on the middle of the abdomen ; a distinct pure white superciliary stripe from the base of the bill over the eye ; bill blackish ; legs blackish plumbeous ; iris dark brown. Culmen 0·4, wing 2·55, tail 2·8, tarsus 0·85 inch. Sexes alike.

Hab. Mongolia (Kansu and the upper Chuanche).

Inhabits the bushes in the alpine zone of the mountains, and is seen in small flocks, often in company with *Leptopœcile* in the rhododendron and caragana thickets. Its call-note is a loud whistle reminding one of that of *Rhopophilus*. Mr. Grum-

Grzimailo found a nest containing five eggs near Sining, which was placed in a mouse-hole and constructed of moss and grass and lined with camels' wool and mouse hair. The eggs were white, spotted all over the surface of the shell with reddish yellow.

The nearest ally to this Titmouse is *Parus montanus* Gambel, which inhabits the Rocky Mountains and western North America.

254. Red-bellied Titmouse.

PARUS DAVIDI.

Parus davidi (Berez. and Bianchi), Ptitz. Gan-su p. 113, pl. ii. fig. 4 (1891).

Ad. (Kan-su). Crown and nape deep black, rather dull; below the black nape a rufous band crosses the back, joining the red on the breast; back dark olive-brown with a grey tinge; tail and wings like the back, externally margined with dull ochraceous; sides of the neck and head below the eye white; chin and throat dull black; rest of the under part chestnut-red, the centre of the abdomen paler; 4th and 5th quills longest, the 6th nearly equal, the 2nd equal to the 9th or 10th, the 1st about 21mm. shorter; beak black; legs plumbeous; iris dark brown. Culmen 0·37, wing 2·55, tail 2·0, tarsus 0·65 inch. Sexes alike; the young differ only in having the sides of the head yellowish.

Hab. S.W. Kansu.

Berezovski only met with it in the mountains of S.W. Kansu where it was rare, occurring in small parties of 5 to 10 individuals on the edge of the forest, in valleys at an altitude of 7,000 to 9,000 feet. Its note resembles that of *P. affinis*, but is harsher and more discordant, and in its general habits it does not differ from the Marsh Titmouse. Nothing is known respecting its nidification.

255. Varied Titmouse.

PARUS VARIUS.

Parus varius, Temm. and Schl. Faun. Jap. Aves, p. 71, pl. 35 (1850); Gadow, Cat. B. Br. Mus. viii. p. 37; Seebohm, B. Jap. Emp. p. 85.

Yama-gara, Jap.

♂ *ad.* (Japan). A broad frontal band continued down the sides of the neck white; crown, hind neck, chin, and throat deep black; an irregular white patch on the occiput and nape; upper part of back chestnut-red, the remainder of back, wings, and tail bluish grey; an irregular band below the black throat creamy white; breast, abdomen, and flanks chestnut-red, paler on the middle of the abdomen and under tail-coverts; bill brownish horn; legs plumbeous; iris brown. Culmen 0·51, wing 3·1, tail 2·22, tarsus 0·77 inch. Female similar but rather duller on the upper parts.

Hab. Japan (Yesso and Hondo) and Corea.

In habits it is said to resemble the other Titmice, and like them frequents conifer groves, but is much less sociable, and is generally seen alone or in pairs. Its note is described as resembling that of *Picus minor*. It nests in holes in trees or in stone walls, in April or May, depositing 7 to 8 eggs which are white, faintly marked, chiefly at the larger end, with pale red, and measure about 0·69 by 0·55.

In the Seven Islands, south of Japan, another form, *Parus Owstoni* Ijima (Dobuts. Zass. No. 62, December 1893) occurs, which has a larger and stouter bill, and the white portions of the plumage are replaced by dark rufous.

256. AZURE TITMOUSE.

PARUS CYANUS.

Parus cyanus, Pall. Nov. Comm. Ac. Sci. Imp. Petrop. xiv. p. 588, Tab. 13, fig. 1 (1770); Naum. iv. p. 76, Taf. 95, fig. 3; Gould, B. of E. iii. pl. 153; Dresser, iii. p. 143, pl. 114; Gadow, Cat. B. Br. Mus. viii. p. 10; (Tacz.) F. O. Sib. O. p. 432.

Lasurmeise, German; *Azurmes*, Swed.; *Bielaya-Lazorevka*, Russ.

♂ *ad.* (S. Ural). Crown, lores, and a ring round the eye white, a blackish blue stripe passing through the eye; back bluish grey; upper tail-coverts blue, tipped with white; wings greyish brown, the outer webs of feathers blue and tipped with white; a broad white alar bar; tail blue, the outer feathers and tips white; under parts white, with a small bluish black patch in the middle of the breast; bill blackish; legs plumbeous; iris blackish brown. Culmen 0·4, wing 2·7, tail 2·7, tarsus 0·65 inch.

Hab. Russia, east through Siberia to the sea of Japan, and south to Turkestan. In Europe it has strayed as far west as Scandinavia, Germany, and Austria.

Frequents as a rule damp places, willow thickets on the borders of streams, and does not inhabit forests. Its call-note is very varied; when on the wing it utters a loud but fine *tirr, tirr*, when perched a loud and agreeable *tscherpink, tscherpink, tscherpink*, very quickly in succession, and then a note like the *pink, pink, tschsch*, of the Coal Titmouse. Its flight consists of a succession of bow-shaped lines, and somewhat resembles that of the Wagtail, and is more powerful than that of *P. major*. Like its allies it is very active and restless, and feeds chiefly on insects of various kinds and their larvæ. It breeds in May and places its nest in the hole of a tree, a willow being most frequently selected, and deposits 10 to 11 eggs. The nest is constructed of moss and hair, and the eggs are white, spotted with dull red, most nearly resembling those of *P. cæruleus*, and measure about 0·65 by 0·45.

Severtzoff separated subspecifically the Tian-shan bird under the name of *Parus cyanus tianschanicus* (J. f. O. 1873, p. 347), but I agree with Mr. Pleske that it cannot stand even as a subspecies.

257. SUBSP. PARUS BEREZOVSKII.

Parus berezovskii, Pleske, Prjevalsky's Reisen, ii. Vögel, p. 163, Taf. vii. figs. 3, 4 (1894).

Ad. Differs from *P. flavipectus* in having the crown washed with sooty grey, the stripe on the side of the head restricted to the front of the eye, the band on the nape small or wanting, and the spot on the abdomen wanting ; bill dark horn, lighter on the edges ; legs plumbeous ; iris brown. Culmen 0·37, wing 2·5, tail 2·35, tarsus 0·7 inch.

Hab. Upper Chuanche in Mongolia.

All we know about this species is that Col. Prjevalsky met with it on the upper Chuanche, where it inhabits thickets to an altitude of 8,000 feet. On the 23rd May he saw young birds which had left the nest.

258. YELLOW-BREASTED TITMOUSE.

PARUS FLAVIPECTUS.

Parus flavipectus, Severtz. Turk. Jevot. p. 133, pl. viii. fig. 7 ; Gadow, Cat. B. Br. Mus. viii. p. 11.

♂ (Turkestan). Resembles *P. cyanus*, but has the crown and sides of the head washed with bluish grey, and the lower part of the neck and breast are rich sulphur-yellow. Culmen 0·4, wing 2·65, tail 2·42, tarsus 0·65 inch.

Hab. Turkestan.

In habits this species is said not to differ from *P. cyanus*, and its eggs and nest are as yet unknown.

259. SUBSP. PARUS PLESKII.

Parus pleskii, (Cabanis), J. f. B. 1877, p. 213, Taf. 3, fig. 1; Gadow, Cat. B. Br. Mus. viii. p. 12; Dresser, ix. p. 125, pl. 659.

♂ *ad.* (St. Petersburg). Crown azure-blue surrounded by a white stripe; back and rump greyish blue; rest of the head, neck, and the upper parts, otherwise as in *P. cæruleus* except that the secondaries and wing-coverts are more broadly tipped with white, and the outer web of the outer tail-feather is white; under parts white; the breast and flanks faintly tinged with primrose; on the middle of the breast a dark blue line; beak horn-blue paler at the base; legs plumbeous; iris dark brown. Culmen 0·4, wing 2·6, tail 2·4, tarsus 0·68 inch.

Hab. North Russia west of the Ural, and has occurred once in Belgium.

This species is intermediate between *P. cyanus* and *P. cæruleus*, and is said to interbreed with both species. In its habits it does not differ from them, and though its nest and eggs are unknown they will probably be found to resemble those of *P. cæruleus.*

260. THE BLUE TITMOUSE.

PARUS CÆRULEUS.

Parus cæruleus, Linn. Syst. Nat. i. p. 341 (1766); Naum. iv. p. 62, Taf. 95, figs. 1, 2; Gould, B. of E. ii. pl. 154; id. B. of Gt. Brit. ii. pl. 24; Hewitson, i. p. 151, pl. xxxix. fig. 2; Newton, i. p. 483; Dresser, iii. p. 131, pl. 113, figs. 1, 2; Gadow, Cat. B. Br. Mus. viii. p. 12; Saunders, p. 109; Lilford, ii. p. 102, pl. 45.

Mésange bleue, French; *Cedovem pequeno*, Portug.; *Herrerillo*, Span.; *Cinciarella*, Ital.; *Blaumeise*, German; *Pimpel*, Dutch; *Blaameise*, Dan. and Norweg.; *Blåmes*, Swed.; *Sinitiitinen*, Finn.; *Sinitza-Lazorevka*, Russ.; *Sikoramodra*, Polish.

♂ *ad.* (Holland). Crown, back of neck, and a band encircling the neck, chin and a line to the band bright blue; forehead, a line encircling the crown and cheeks white; a blue-black line from the lores through the eye to the nape; back yellowish green the rump yellower; wings and tail blackish margined with blue, the coverts and inner secondaries tipped with white; under parts lemon-yellow, a dark bluish line along the middle of the abdomen; bill blackish horn; legs plumbeous; iris dark brown. Culmen 0·4, wing 2·6, tail 2·1, tarsus 0·7 inch. Female similar.

Hab. Europe from 63° N. Lat. to the Mediterranean and east to Persia.

Active, restless, and cheerful, this is one of our best known birds, especially as it so frequently occurs in gardens and near inhabited dwellings. After the young are fledged they collect in small flocks, together with other Titmice and Goldcrests, and wander about during the winter in search of food, but in some parts they migrate regularly. They feed chiefly on insects and their larvæ, but to some slight extent on berries, seeds, and fruit. Few birds are more useful in ridding gardens of insect pests. They are also very partial to picking an old bone if placed out for that purpose. The nest is constructed of moss, wool, and feathers, and is placed in any convenient hole in a tree or wall, or in an old pot or box if allowed to make use of such. The eggs, from 7 to 12, or 14, or occasionally even more, are deposited in April or May, and are white spotted with pale red, averaging in size about 0·57 by 0·45. Mr. Blanford separated the Persian bird, naming it *P. persicus* (Ibis, 1873, p. 89, E. Pers. pl. xvi., fig. 2), but after a careful comparison I cannot agree that it is separable from the European form.

261. ALGERIAN BLUE TITMOUSE.

PARUS ULTRAMARINUS.

Parus ultramarinus, Bp. Rev. et Mag. de Zool. 1841, p. 146 ; Dresser, ix. p. 128 ; *P. teneriffæ*, Dresser, iii. p. 139, pl. 113, fig. 3 (nec. Less.) ; Gadow, Cat. B. Br. Mus. viii. p. 14, (nec. Less.).

Bou-reziza, Arabic.

♂ *ad.* (Algeria). Differs from *P. cœruleus* in having the upper parts clear slaty blue, the crown blue-black, and all the blue portions of the plumage very much darker in tone ; larger wing-coverts and secondaries tipped with white. Culmen 0·4, wing 2·45, tail, 2·0, tarsus 0·65 inch. Sexes similar.

Hab. North-west Africa and the island of Fuerteventura.

In habits it resembles *P. cœruleus*, and affects woods, orchards, and gardens, feeding on insects and their larvæ, small berries, and seeds. Its note is, however, said to differ from that of *P. cœruleus*. It nests in holes of trees, making a nest of any soft substances it can collect together, and deposits 6 to 8 eggs, which resemble those of *P. cœruleus*, but are as a rule more strongly blotched with red.

262. SUBSP. PARUS TENERIFFÆ.

Parus teneriffæ, Lesson, Traité d'Orn. i. p. 456 (1831); Dresser, ix. p. 127, pl. 660, fig. 2; *P. violaceus*, Bolle J.f.O. 1854, p. 455.

♂ *ad.* (Teneriffe). Resembles *P. ultramarinus* but is rather larger, brighter in tone of colour, and lacks the white margins to the secondaries and wing-coverts, the wing being plain blue. Culmen 0·45, wing 2·5, tail, 2·15, tarsus 0·8 inch. Sexes similar.

Hab. Grand Canary, Teneriffe, and Gomera in the Canaries.

Frequents both tree- and bush-growth from the coast to an altitude of 4,300 feet, and is most commonly seen in the fruit gardens. In habits it does not differ from *P. cæruleus*, and like that species places its nest in the hole of a tree or wall or in any convenient nook or cranny, and deposits in June 4 to 5 eggs, which resemble those of *P. cæruleus*, but are a trifle larger and more boldly blotched.

263. SUBSP. PARUS PALMENSIS.

Parus palmensis, Meade-Waldo, Ann. Mag. Nat. Hist. ser. 6, iii. p. 490 (1889). id. Ibis. 1889, pl. xvi; Dresser, ix. p. 129, pl. 660, fig. 1.

Ad. (Palma). Resembles *P. ultramarinus* but has the entire abdomen, excepting the sides, pure white; secondaries and wing-coverts tipped with white. Culmen 0·45, wing 2·5, tail 2·3, tarsus 0·75 inch.

Hab. Island of Palma, Canaries.

Frequents the pine-woods and laurel-thickets up to an elevation of 5,000 feet, and does not frequent gardens or chestnut-groves. Like its congeners it breeds in holes of trees, but much earlier, late in March or early in April, and deposits only 3 or 4 eggs, which are white spotted and blotched with red.

264. SUBSP. PARUS OMBRIOSUS.

Parus ombriosus, Meade-Waldo, Ann. and Mag. Nat. Hist. ser. 6. v. p. 103 (1890); id. Ibis, 1890, pl. xiii; Dresser, ix. p. 131, pl. 661.

Ad. Resembles *P. ultramarinus* but has only a band across the forepart of the back slate-blue, the rest of the back and rump being green, darker in tint than in *P. cæruleus*; primaries narrowly bordered, and secondaries tipped with white. Culmen 0·4, wing 2·5, tail 2·25, tarsus 0·75 inch.

Hab. Island of Hierro, Canaries.

Frequents the pine-woods, and is occasionally found in the tree heaths and laurels, but in general habits does not differ from *P. teneriffæ.* Its nest and eggs are as yet unknown.

LOPHOPHANES, Kaup, 1829.

265. Crested Titmouse.

LOPHOPHANES CRISTATUS.

Lophophanes cristatus, (Linn.) Fauna, Suecica. p. 97 (1761); (Naum.) iv. p. 42. Taf. 94, fig. 3; (Hewitson), i. p. 154, pl. xxxix. fig. 3; (Gould), B. of E. ii. pl. 156; (id.) B. of Gt. Brit. ii. pl. 26; (Newton), i. p. 499; Dresser, iii. p. 151, pl. 115; (Gadow), Cat. B. Br. Mus. viii. p. 27; (Saunders), p. 111; (Lilford), ii. p. 107, pl. 49.

Mésange huppée, French; *Capuchino,* Span.; *Cincia con ciuffo,* Ital.; *Haubenmeise,* German; *Tofsmeise,* Dan. and Norweg.; *Tofsmes,* Swed.; *Toyhlötiiainen,* Finn.

♂ *ad.* (Sweden). Crest long, lanceolate, black margined with white; upper parts greyish brown, tinged with rufous on the rump; wings and tail dark brown; chin and throat deep black, on the lower throat widening and forming a narrow band to the nape; sides of head, neck, and under parts white, tinged with rufous buff on the flanks; bill black; legs plumbeous; iris brown. Culmen 0·5, wing 2·55, tail 2·05, tarsus 0·7 inch. Sexes alike, and the young differ only in having shorter crests.

Hab. Europe generally, from Northern Scandinavia to the Mediterranean, and from the Atlantic to the Ural; not uncommon in some parts of Scotland, but rare in England.

In habits it has much in common with the other Titmice, but is much oftener to be seen searching for food on the ground. It affects conifer woods and groves, and alder swamps where conifer trees are near, and is rarely seen away from woods, or in gardens, and feeds on insects and their larvæ, and to a smaller extent on fruit, seeds, and berries.

It is only migratory in some localities, being as a rule a wanderer during the winter, consorting with other Titmice, Goldcrests, and Nuthatches, wandering about in search of food. Its note differs from that of its allies, and is loud, clear, and sharp, resembling the syllables *kirr, kirr,* or *kirrit.* It places its nest usually in the hole of a tree, either excavating it itself or using an old woodpecker's or any convenient hole, but it has been known to construct a nest not unlike that of a wren. The nest is usually constructed of grass, moss, wool, and feathers, and the eggs, 5 or 6 in number, are white, rather boldly spotted and blotched with bright red, measuring about 0·65 by 0·50.

266. HIMALAYAN CRESTED TITMOUSE.

LOPHOPHANES RUFINUCHALIS.

Lophophanes rufinuchalis, (Blyth), J. A. S. Beng. xviii. p. 810 (1849); (Gadow), Cat. B. Br. Mus. viii. p. 29; Oates, F. Brit. Ind. Birds, i. p. 58; (Gould), B. of Asia, ii. pl. 60.

Ad. (Himalayas). Crown, hind neck, throat and breast glossy black, the crown with a long recurved crest; sides of the head below the eye, sides of neck, and nuchal patch white; upper parts bluish grey with a buff tinge; wings and tail dark ashy grey margined with bluish grey, secondaries and wing-coverts unspotted; under parts below the breast clear bluish grey; the sides of the breast, axillaries, and under wing- and tail-coverts rusty red; bill blackish; legs plumbeous; iris brown. Culmen 0·5, wing 2·9, tail 2·28, tarsus 0·8 inch. Sexes alike.

Hab. Samarcand, Afghanistan, Turkestan, and Himalayas.

It inhabits the mountains from 7,000 to 12,000 feet altitude in summer, descending to 5,000 feet in winter. It breeds in the pine forests of Gilgit, and its nest has been found under a large stone, but its eggs are undescribed.

267. SUBSP. LOPHOPHANES BEAVANI.

Lophophanes beavani, Blyth, Jerd. B. of Ind. ii. p. 275 (1863); (Gadow), Cat. B. Br. Mus. vii. p. 29; Oates, F. Brit. Ind. Birds, i. p. 59.

♂ *ad.* (Sikhim). Resembles *L. rufinuchalis*, differing in having the upper parts rather darker and clearer blue and the black on the throat extending much less further down, only to the upper breast, rest of the under parts blue-grey tinged with buff. The young bird has the black on the throat duller and gradually merging into the grey of the rest of the under parts. Culmen 0·48, wing 2·7, tail 2·0, tarsus 0·75 inch. Sexes alike.

Hab. Nepal, Sikhim, Koko-nor mountains in Mongolia, and Tsinling and S. Chensi in China.

Like the preceding species it inhabits the mountains at considerable elevations, and is found in the pine-woods.

268. BLACK-CRESTED TITMOUSE.

LOPHOPHANES MELANOLOPHALUS.

Lophophanes melanolophalus, (Vigors) P.Z.S. 1831, p. 23; (Gould), Cent. Himal. B. pl. 30; (id.) B. of Asia, ii. pl. 61; (Gadow), Cat. B. Br. Mus. viii p. 28; Oates, F. Brit. Ind. Birds, i. p. 57.

♂ *ad.* (Himalayas). Resembles *L. rufinuchalis* but has the upper parts clearer darker bluish, and more rufous on the sides of the breast; secondaries and wing-coverts with conspicuous white terminal spots. Culmen 0·42, wing 2·5, tail 1·8, tarsus 0·67 inch. Sexes alike. The young resembles those of *L. beavani* but have conspicuous buff terminal spots on the wing-coverts and secondaries.

Hab. Eastern Afghanistan and N. W. Himalayas from Kumaun to Murree.

Frequents conifer woods in the mountains at elevations of from 6,000 to 12,000 feet, and breeds from March to June, placing its nest, which is constructed of moss, fur, and wool, in a hole in a tree, rock, or wall, the latter in preference. The eggs, from 6 to 8 in number, are pinkish-white spotted and blotched with bright brownish-red, and measure about 0·61 by 0·47.

269. MONGOLIAN CRESTED TITMOUSE.

LOPHOPHANES DICHROIDES.

Lophophanes dichroides, Prjevalsky, Mongol i Strana Tangut, ii. p. 54. (1877); Pleske, Prjevalsky's Reisen, ii. p. 166, Taf. ix. fig. 2.

♂ *ad.* (Kan-su). Crown and crest mouse-grey, the forehead whitish; rest of the upper parts hair-brown, the rump rather yellower; wings and tail brownish grey with paler margins; a half collar round the hind neck pale isabelline; under parts pale isabelline, the throat and breast rather whiter; flanks tinged with pale reddish buff; bill blackish; legs slate-grey; iris brick-red. Culmen 0·45, wing 2·8, tail 2·1, tarsus 0·85 inch. Female similar but a trifle duller in colour; the young bird has the upper parts darker, and the under parts more uniformly coloured.

Hab. The province of Kansu in Mongolia, the S. Tetung Mountains, and Moupin.

Nothing appears on record respecting the habits of this species, which in Mongolia is found in the conifer woods in the lower mountain zone. It probably does not differ from *L. dichrous* (Hodgs.), of which it is an eastern form differing in having the upper parts browner and the under parts paler.

ÆGITHALUS, Boie, 1822.

270. PENDULINE TITMOUSE.

ÆGITHALUS PENDULINUS.

Ægithalus pendulinus, (Linn.) Syst. Nat. i. p. 342 (1766); (Naum.) iv. p. 113, Taf. 97; (Gould), B. of E. ii. p. 159; Dresser, iii. p. 159, pl.116; Gadow, Cat. B. Br. Mus. viii. p. 67; *Æg. consobrinus*, Swinhoe, P.Z.S. 1870, p. 133; Tacz. F. O. Sib. O. p. 446; Seebohm, B. Jap. Emp. p. 88.

Remiz penduline, French; *Pendolino*, Ital.; *Beutelmeise*, German; *Remez*, Russ.

♂ *ad.* (Piedmont). Forehead, and sides of head including the ear-coverts deep black, margin of frontal stripe tinged with rufous; crown and hind neck white with a faint blue-grey tinge; forepart of back chestnut; the rest and rump warm ochraceous; quills and tail blackish margined with white; the upper wing-coverts chestnut and black tipped with ochreous; chin and throat white, rest of under parts ochreous white; the breast marked with chestnut-red; bill horn; legs black; iris brown. Culmen 0·4, wing 2·15, tail 1·95, tarsus 0·5 inch. The female is rather duller in tinge, the head and neck greyer and the black on the head covers a smaller area. The young bird has no black on the head or chestnut on the back.

Hab. Southern Europe, Asia Minor, Central Asia, Siberia, China, and Japan.

In habits it is active and lively, and frequents both swampy and dry localities. Its call-note resembles that of the Wood-Wren, but is softer, and it does not become silent when approached by any one. It breeds late in May, and builds a very artistic nest, purse-shaped or globular, with a funnel-shaped entrance at the upper end, constructed of flax, hemp, bark-shreds, tree-cotton, or other vegetable substances closely felted together, and occasionally of wool, or goats', camels', or horsehair. It is attached to the outer twigs of a tree or bush at from 6 to 50 feet above the ground, either near or above water or in a dry locality. The eggs, from 6 to 10 in number, are pure white, elongated oval, and measure about 0·68 by 0·40. Examples from Asia are, as a rule, smaller, and have a smaller and shorter bill, and have been separated under the names of *Æg. consobrinus*, Swinhoe, and *Æg. stoliczkæ*, Hume; but, it seems to me, without sufficient reason. I have specimens of this smaller form from the S. Ural.

271. SUBSP. ÆGITHALUS CASTANEUS.

Ægithalus castaneus, Severtz. Turk. Jevot. p. 136; Dresser, iii. p. 165, pl. 117; Gadow, Cat. B. Br. Mus. viii. p. 68; *Æg. caspius*, Bogd. Ptitz. Kavk. p. 91 (1879).

♂ *ad.* (Astrachan). Differs from *Æg. pendulinus* in having the crown, nape, and sides of the neck chestnut-red; the back deeper chestnut, the white margins to the wings and tail broader, and more chestnut on the breast. Culmen 0·4, wing 2·25, tail 2·05, tarsus 0·58 inch. The female has the crown and nape dull isabelline marked with chestnut and less chestnut on the breast.

Hab. Delta of the Volga.

In habits and nidification does not differ from *Æg. pendulinus.*

272. SUBSP. ÆGITHALUS CORONATUS.

Ægithalus coronatus, Severtz. Turk. Jevot. p. 136, pl. 9. fig. 3, (1873); Gadow, Cat. B. Br. Mus. viii. p. 68; *Æg. atricapillus*, Severtz. op. cit. p. 137, pl. 9, fig. 4.

♂ *ad.* (Turkestan). Resembles *Æg. pendulinus* but has the forehead, sides of the crown and nape black, the centre of the crown mottled black and white. Culmen 0·35, wing 2·1, tail 1·8, tarsus 0·52 inch.

Hab. Western Turkestan.

Does not differ in habits and nidification from *Æg. pendulinus.*

273. SUBSP. ÆGITHALUS MACRONYX.

Ægithalus macronyx, Severtz. Turk. Jevot. p. 137, pl. 9, fig. 8 (1873); Gadow, Cat. B. Br. Mus. viii. p. 69; *Æg. rutilans* var. *cucullata* et var. *pectoralis*, Severtz. op. cit. pl. 9, fig. 6, 7.

♂ *ad.* Differs from *Æg. coronatus* in having the chin, throat, sides of the neck and fore-neck blackish grey, centre of the crown, nape, and hind-neck pale brownish yellow; claws stronger. Culmen 0·4, wing 2·2, tail 1·85, tarsus 0·6 inch.

Hab. North-Western Turkestan.

Does not differ in habits or nidification from *Æg. pendulinus.*

SUTHORA, Hodgs. 1838.

274. CHINESE SUTHORA.

SUTHORA WEBBIANA.

Suthora webbiana, Gray, P.Z.S, 1852, p. 70, pl. xlix ; Gould, B. of Asia, iii. pl. 72 ; Prjev. in Rowley's Orn. Misc. ii. p. 191 ; David and Oust. Ois. Chine. p. 208 ; Sharpe, Cat. B. Br. Mus. vii. p. 490.

♂ *ad.* Crown and nape pale reddish brown ; upper parts and tail pale ashy hair-brown, paler on the upper tail-coverts ; quills dark brown broadly margined with chestnut brown ; scapulars and wing-coverts like the back ; under parts pale brownish grey, paler on the centre of the abdomen ; sides of face, throat, and fore-neck tinged with pale vinous ; the flanks washed with brown ; bill short and stumpy, brown at base and yellow at tip ; legs greyish brown ; iris varying from reddish brown to clear yellow. Culmen 0·33, wing 2·2, tail 2·8, tarsus 0·85 inch. Sexes alike.

Hab. Mongolia, Southern Kan-su, Northern and Central China to Pekin, and the northern bend of the Hoang-ho river.

It frequents the mountains in the summer, descending to the plains in winter, where it collects in small flocks and is very sociable. It builds a neat, cup-shaped nest, and lays rich blue eggs similar in colour to those of *Accentor modularis*, but a trifle paler, which measure about 0·62 by 0·47.

275. SPECTACLED SUTHORA.

SUTHORA CONSPICILLATA.

Suthora conspicillata, David. Nouv. Archiv. Mus. Bull. vii. p. 14 (1871) ; id. and Oust. Ois. Chine, p. 211, pl. 65 ; Sharpe, Cat. B. Br. Mus. vii. p. 489 ; Berezovski and Bianchi, Ptitz. Gan-su. p. 66.

ad. Differs from *S. webbiana* in having the upper part of the head and neck chestnut-brown, a ring of white feathers round the eye, and the back wing-coverts and rump olivaceous ; throat with a few brown streaks ; bill yellow ; legs brown ; iris brown. Culmen 0·15, wing 2·35, tail 3·15, tarsus 0 9 inch.

Hab. Southern Kan-su, the borders of Koko-nor, Shen-si, and South Tsinling in China.

Inhabits mountainous districts, and is said not to differ from its congeners in habits. Nothing appears to be known respecting its nidification.

276. GREY-CROWNED SUTHORA.

SUTHORA PRJEVALSKII.

Suthora prjewalskii, Berezovski and Bianchi, Ptitz. Gan-su. p. 67, Tab. ii. fig. i. (1891); Dresser and Morgan, Ibis, 1899, p. 271.

ad. Differs from *S. webbiana* in having the crown and nape ash-grey, nasal feathers, lores, forehead, and a streak over the eyes to the nape cinnamon-black; lower back, scapulars, rump and upper tail-coverts dull olive, the upper back olivaceous grey; under parts dull greyish; edge of gape, chin, throat and upper breast cinnamon-red; bill rose colour, the tip white, the lower mandible tinged with yellow; legs bluish grey; iris brick-red. Culmen 0·31, wing 2·16, tail 2·76, tarsus 0·75 inch. Sexes alike.

Hab. Kan-su.

Frequents bamboo thickets and thin larch-woods at an altitude of 8,000 to 10,000 feet, and is said to resemble *Parus major* in habits. Nothing is known respecting its nidification.

SITTA, Linn., 1766.

277. NORTHERN NUTHATCH.

SITTA EUROPÆA.

Sitta europæa, Linn. Syst. Nat. i. p. 177 (1766); Dresser, iii. p. 169, pl. 118; Gadow, Cat. B. Br. Mus. viii. p. 342.

Spetmeise, Nöddehakker, Dan.; *Spetmeise Nödvackke*, Norweg.; *Nötväcka*, Swed.; *Pähkinänakkeli*, Finn.; *Popolsen*, Russ.

ad. (Sweden). Upper parts bright slate-blue; lores and a broad streak passing through the eye to the back black, on the sides of the crown slightly bordered with hoary grey; quills slaty brown externally margined with slaty blue; central tail-feathers slate-blue; the remainder black with a broad subterminal white band; under parts white, the flanks rich chestnut-red, and the under tail-coverts margined with chestnut-red; bill blackish horn; lower mandible whitish; legs yellowish grey; iris brown. Culmen 0·85, wing 3·5, tail 2·0, tarsus 0·8 inch. Sexes similar, except that the female has the flanks paler, and the abdomen tinged with rufous buff.

Hab. Scandinavia and North Russia, east to the Ural, where it merges into *S. uralensis*, a very closely allied subspecies.

In habits it is active and lively and climbs on the trunks and branches of the trees as actively as a Woodpecker searching amongst the crannies of the bark for its insect-food. It is generally seen singly or in pairs even in the winter, when it wanders about from place to place. It frequents woods, groves, and gardens, but does not affect pine-woods. Its call-note is a clear *psitt, psitt*, and in the spring it has a note not unlike the whistle of a curlew. It feeds on insects and their larvæ, and in the winter, seeds and nuts, of which it is very fond, and not unfrequently lays up a store for winter use, and generally has a favourite hole in a branch where it fixes the nut and cracks it with its powerful bill. It nests in the hole of a tree, which it plasters up with clay, leaving a suitably large entrance hole, and in April or May deposits 6 to 9 eggs, which are white, more or less boldly spotted and blotched with bright red, in size averaging about 0·8 by 0·6.

278. SUBSP. SITTA URALENSIS.

Sitta uralensis, Licht. in Gloger's, Handb. Vögel, Deutschl, pp. 377, 388 (1834); Gadow, Cat. B. Br. Mus. viii. p. 342; Tacz. F. O. Sib. O. p. 199; *S. asiatica*, Temm. Gould, B. of E. iii. pl. 236.

♂ *ad.* (Siberia). Differs from *S. europæa* in having the under parts purer white, and less chestnut on the flanks, the hoary margin bordering the upper part of the black ocular stripe more distinct and is as a rule smaller. Culmen 0·67, wing 3·25, tail 1·8, tarsus 0·75 inch.

Hab. Siberia, south to Lake Baikal, and Japan.

This subspecies varies according to locality, and has been considerably subdivided by those ornithologists who go in for splitting. Western specimens are, as a rule, the largest, and approach nearest to true *Sitta europæa.* Taczanowski makes two subspecies, *Sitta baicalensis* and *Sitta albifrons* of the form inhabiting Siberia, the former of which I take to be true *S. uralensis*, as he describes it, as having no white on the forehead, and the latter, which has the forehead and superciliary stripe white, is the form found in Japan.

In habits and nidification this bird does not differ from *S. europæa.*

279. SUBSP. SITTA AMURENSIS.

Sitta amurensis, Swinhoe, P.Z.S. 1871, p. 350; Gadow, Cat. B. Br. Mus. viii. p. 345; Pleske, Prjevalsky's Reisen. ii. p. 173, Taf. ix. fig. 3.

Kimawari, Jap.

Ad. (Japan). Differs from *S. europæa* in having the sides of the breast, axillaries, abdomen, and flanks ochraceous buff, the flanks washed with chestnut. Culmen 0·75, wing 3·2, tail 1·75, tarsus 0·72 inch.

Hab. Southern Siberia, Mongolia, N. China, and Japan.

This, an eastern representative of *S. cæsia*, does not differ from that species in habits. Specimens from Mongolia have the abdomen and flanks darker coloured, and that figured by Prjevalsky has these parts as dark as in *S. cæsia*. Those from Hakodadi, Japan, have the under parts white, with the very faintest tinge of buff on the abdomen, the forehead, and a broad supercilium white, and very little chestnut on the flanks. Others from Sapporo, Japan, have the upper parts similar, but the abdomen is pale buff. These run very small, measuring: culmen 0·68 to 0·72, wing 3·2, tail 1·67 to 1·7, tarsus 0·68 to 0·7 inch. One specimen from Khobdo, Mongolia, has the upper parts similar, but scarcely a trace of buff on the abdomen, it being nearly pure white, and measures only: culmen 0·7, wing 3·15, tail 1·65, tarsus 0·65 inch. These I take to be *Sitta amurensis clara*, Stejn, but some of these birds have so little trace of buff on the abdomen that it is difficult to know whether to refer them to *uralensis* or *amurensis*.

280. The Nuthatch.

SITTA CÆSIA.

Sitta cæsia, Meyer and Wolf, Taschenb. Deutsch. Vogelk. i. p. 128 (1870); Hewitson, i. p. 247, pl. 62 xii. fig. 4; Gould, B. of Gt. Brit. pl. xxii; Newton, i. p. 473; Dresser, iii, p. 175, pl. 119; Gadow, Cat. B. Br. Mus. viii. p. 347; Saunders, p. 113; Lilford, ii. p. 112, pl. 51; *S. europæa*, nec. Linn. Naum. v. p. 377, Taf. 139; *S. sinensis*, Verr. Nouv. Arch. Mus. Bull. vi. p. 34 (1871).

Torchepot, French; *Trepadeira*, Portug.; *Trepatroncos*, Span.; *Picchiotto*, Ital.; *Spechtmeise*, *Kleiber*, German; *Boomklever*, Dutch.

♂ *ad.* (Germany). Upper parts, wings, and tail as in *S. europæa*, but the entire under parts except the chin and throat are pale ochreous cinnamon; bill brownish horn; legs pale dull brown; iris brownish. Culmen 0·7, wing 3·3, tail 1·8, tarsus 0·8 inch. Sexes alike.

Hab. Great Britain and continental Europe down to Algeria, and from the Canary Islands east to Persia, reappearing in China.

In habits it agrees closely with *S. europæa*, and like that species is not a true migrant, but only a wanderer in the winter season. It frequents the same places, groves and gardens, and also feeds on insects and their larvæ, nuts, &c., and its nest and eggs are also similar.

The colouration of the under parts varies in tone according to locality. British specimens are as a rule dullest, though occasionally one is as brightly coloured as any; and those from Italy and Asia Minor have the under parts most brightly coloured. *Sitta sinensis*, which inhabits China and eastern Tibet, is said to differ from the European bird, merely in being somewhat smaller in size.

Seebohm named a form which he says inhabits Pomerania the Baltic provinces, Poland, and the Crimea, *Sitta homeyeri*, as being intermediate between *S. cæsia* and *S. europæa*, but after an examination of his specimens and those in my collection it seems to me that this form cannot be separated from *S. europæa*. It has the abdomen tinged with cream colour, and I have examined Scandinavian examples of *S. europæa*, which also have the abdomen slightly washed with cream colour.

281. KRUEPER'S NUTHATCH.

SITTA KRUEPERI.

Sitta krueperi, von Pelz. Sitz. kaiserl. Akad. Wissensch, Wien. xlviii. Abth. i. p. 149 (1863); Sclater, Ibis. 1865. pl. vii; Dresser, iii. p. 189, pl. 121; Gadow, Cat. B. Br. Mus. viii. p. 350.

♂ *ad.* (Smyrna). Upper parts slaty blue, the forehead black to the centre of the crown; quills brown externally margined with slate-blue; central tail-feathers like the back, the rest black tipped with grey, and with white subterminal spots; lores and an indistinct line through the eye black; cheeks, throat, and sides of head white, rest of the under parts dull slate-grey; a large crescentic patch on the breast chestnut-red; thighs and under tail-coverts marked with rusty red; bill dark horn, lighter at base; legs slate-grey; iris brown. Culmen 0·6, wing 2·9, tail 1·5, tarsus 0·65 inch. Female similar but is duller in colour, and the young bird lacks the black on the forehead, and the stripe through the eye is greyish.

Hab. Asia Minor, Palestine, and Syria.

In habits it is active and restless, and resembles our European bird or the Tree-Creeper. It has a variety of call-notes, one not unlike the call-note of a canary, and another not unlike the monotonous note of *Parus major*, but more guttural. It feeds on insects and their larvæ, and seeds, especially those of conifers, and is most often seen in conifer woods. Unlike *Sitta cæsia*, it does not plaster up a hole to form its nest, but hacks a hole in a rotten branch or tree stump, which it lines with dry grass, hair, thistledown, and feathers, and deposits in May 4 to

6 eggs, which are white, marked with red, roundish in shape, and somewhat resemble the eggs of *Parus major*, but are rounder and more richly marked, and in size measure about 0.67 by 0·53.

282. Corsican Nuthatch.

SITTA WHITEHEADI.

Sitta whiteheadi, Sharpe, P.Z.S. 1884, p. 233, pl. xxxvi; Whitehead, Ibis, 1885, pl. ii; Dresser, ix. p. 133, pl. 662.

♂ *ad.* (Corsica). Crown, nape, and a line passing over the ear-coverts deep black; superciliary stripe, sides of head, and under parts white; upper parts and central tail-feathers pale slate-blue, the latter with black subterminal bands; remaining tail-feathers black, tipped with white; quills blackish, externally margined with slate-blue; bill blackish, light blue at the base; legs plumbeous; iris brown. Culmen 0·7, wing 2·8, tail 1·6, tarsus 0·8 inch. The female differs in being duller and having the crown slate-grey tinged with black.

Hab. Corsica, where it is resident.

In general habits it resembles the other Nuthatches, and frequents woods and groves. Its call-note is a soft whistle repeated quickly many times, often ending with a peculiar hissing sound, *sch-wer, sch-wer.* It is tame and fearless, only moving a short distance away when the nest is attacked. It excavates its nest in a rotten bough or tree trunk like Krüper's Nuthatch, lining the hole with fine bark strips, moss, feathers, and hair, and in May deposits 5 or 6 white eggs, thickly speckled with deep red, in size about equal to those of *Parus major*, resembling those of *Sitta krueperi*, but rather smaller and more boldly marked.

283. Chinese Nuthatch.

SITTA VILLOSA.

Sitta villosa, Verr. Nouv. Archiv. Mus. Bull. 1. p. 78, pl. 5. fig. 1 (1865) David and Oust. Ois. Chine, p. 91, pl. 13; Gadow, Cat. B. Br. Mus. viii. p. 355.

Ad. (China). Differs from *S. whiteheadi* merely in having the black on the crown extending to the upper part of the back, and the breast and abdomen warm buff and not white. Culmen 0·67, wing 2·6, tail 1·4, tarsus 0·65 inch.

Hab. Northern China, Alaschan and Kan-su, where it is resident.

It is said not to differ from *S. whiteheadi* in habits, and probably also not in nidification, but its nest and eggs are not known.

Sitta canadensis, which inhabits North America, differs but little from the present bird, in having the under parts except the chin rusty brown, and in having a black patch on the side of the head, extending over the ear-coverts and part of the sides of the neck.

284. Mongolian Nuthatch.

SITTA PRJEVALSKII.

Sitta prjewalskii, Berezovski and Bianchi, Ptitz. Gan-su. p. 119 (1891), Pleske, Prjevalsky's Reisen, ii. p. 174, Taf. ix. fig. 4; *Sitta ekloni*, Prjev. Tret. pyt. no. Centr. Asie. p. 368 (nomen nudum).

♂ *ad.* Forehead, crown, and nape deep blue-black; upper parts deep slate-blue, the rump rather paler; wings blackish, externally margined with dark slate-blue; central tail-feathers like the back, the rest black, tipped with slate-blue, the outer ones with a subterminal white patch on the inner web; chin, sides of the head, and neck dull white tinged with rusty rufous; rest of under parts ochreous; the sides of the breast and flanks rusty chestnut; bill black; the base of lower mandible paler; legs brownish; iris dark brown. Culmen 0·7, wing 2·9, tail 1·7 tarsus 0·71 inch. Sexes alike.

Hab. The Chuanche river district, Mongolia.

I find nothing on record respecting the habits of this species except that it frequents the conifer woods, and that its call-note somewhat resembles that of the Wryneck. It is closely allied to *Sitta leucopsis*, Gould, from which it differs merely in having more rufous on the under parts. I have not been able to compare specimens in order to convince myself that it is specifically separable.

285. Rock Nuthatch.

SITTA NEUMAYERI.

Sitta neumayeri, Michah. Isis. 1830 p. 814; Dresser, iii. p. 183, pl. 120; Gadow, Cat. B. Br. Mus. viii. p. 345; *S. rufescens*, Gould, B. of E. iii. pl. 235; *S. rupicola*, Blanf., Ibis. 1873, p. 87.

Picchiotto-rupestre, Ital.; *Tsopanakos*, Greek; *Felsenspechtmeise*, German; *Popolsen-skalistyi*, Russ.

♂ *ad.* (Macedonia). In general appearance resembles *S. europæa* but differs in lacking the chestnut on the under parts, the flanks, abdomen and under tail-coverts being warm rufous buff, the tail dark plumbeous grey without any white, the central feathers and outer webs of the rest coloured like the back; beak blackish horn; legs plumbeous; iris dark brown. Culmen 0·9, wing 3·0, tail 1·8, tarsus 0·9 inch. Sexes alike.

Hab. Dalmatia and Greece, ranging east through Asia Minor to northern Persia.

Although to a casual observer this species somewhat resembles *S. europœa*, it differs widely in its habits, for it frequents barren rocks, and is not found on trees. Its food consists chiefly of insects of various kinds and their larvæ Its note is said to be very loud, and to differ considerably from that of *Sitta cæsia.* It breeds in the rocks, selecting a suitable recess, in front of which it builds a covering of mud, having a funnel-shaped entrance. The inside is well lined with goats' hair, thistle-down, &c., and the eggs, from 6 to 10 in number, are deposited late in April, and are white, with large red spots and blotches scattered over the surface. They are larger and stouter than those of *S. cæsia* and *S. europœa*, and measure about 0·84 by 0·64.

286. Subsp. Sitta syriaca.

Sitta syriaca, Ehr. in Temm. Man d'Orn. iii. p. 286 (1835); Gadow, Cat. B. Br. Mus. viii. p. 346; Dresser, ix. p. 137; *S. tephronota*, Sharpe, Ann. and Mag. Nat. Hist. 1872, x. p. 450.

♂ *ad.* (Kokand). Differs from *Sitta neumayeri* in being larger in size, the upper parts paler, the throat and sides of the neck white with a creamy tinge, and the black stripe along the sides of the head is rather broader and extends further down the neck. Culmen, 1·02, wing 3·4, tail 2·3, tarsus 1·05 inch. Sexes alike.

Hab. Transcaspia, Persia, Afghanistan, and Turkestan.

Is merely a large pale race of *Sitta neumayeri*, and does not differ in habits or nidification from that species.

CERTHIA, Linn., 1766.

287. Tree-Creeper.

CERTHIA FAMILIARIS.

Certhia familiaris, Linn. Syst. Nat. i. p. 184 (1766); Naum. v. p. 398, Taf. 140; Hewitson, i. p. 243, pl. lxii. fig. 2; Gould, B. of E. pl. 237; id. B. of Gt. Brit. ii. pl. 64; Newton, i. p. 468; Dresser, iii. 195, pl. 122; Gadow, Cat. B. Br. Mus. viii. p. 323; Tacz. F. O. Sib. O. p. 204; Saunders, p. 117; Lilford, ii. p. 114, pl. 52.

Grimpereau familier, French; *Trepadevia, Atrepa*, Portug.; *Trepatroncos, Areñero*, Span.; *Rampechino*, Ital.; *Baumläufer*, German; *Boomkruipertje*, Dutch; *Træpikker, Trælöber*, Dan.; *Trækryber*, Norweg.; *Trädkrypare*, Swed.; *Punkiipija*, Finn.; *Pishchuka Sverchok*, Russ.; *Kibashiri*, Jap.

♂ *ad.* (England). Upper parts dark brown striped with pale ochreous, the lower back, rump, and upper tail-coverts rufous brown; quills excepting the three first with a broad bar of buffy white across the middle and a second in the folded wing towards the end, and tipped with the same colour; tail uniform pale brown, the shafts rufous; a white streak over the eye; under parts silky white tinged with buff on the flanks and under tail-coverts; bill curved, dark horn-brown, paler below; legs light brown; iris brown. Culmen 0·7, wing 2·5, tail 2·45, tarsus 0·65 inch. Sexes similar. The young bird resembles the adult but has the upper parts dull dark brown spotted with yellowish, and faintly shaded with rusty ochreous; bill very short and almost straight; under parts greyish white, duller on the vent and flanks.

Hab. Europe; N.W. Africa; Asia east to Japan, and south to the Himalayas, and N. China; North America south to Mexico.

In general habits this is a quiet and unobtrusive bird, but busy and restless, appearing to be always on the move climbing spirally up the trunks of trees, carefully examining the bark for its insect food. It is not a migrant, but a wanderer in the winter season, like the Titmice, with which if often then consorts, and frequents woods and groves both of conifer and non-evergreen trees, gardens, &c. Its call-note is a soft cheep, and its song, which is heard in the spring and early summer, is simple but pleasing. It feeds on insects and their larvæ, and to a smaller extent on seeds when insects are scarce. It breeds usually in April, placing its nest in a cleft or behind the loose bark of a tree, occasionally behind loose plaster or in the foundation of the nest of a bird of prey or a rook, and generally raises two broods in the year. The nest is constructed of grass, fine roots and strips of bark, wool, hair, feathers, &c., and is usually rather compressed and deep. The eggs, from 5 to 9 in number, are white, spotted and blotched with reddish-brown and dull red, the markings being frequently collected round the larger end, and measure about 0·62 by 0·49.

Being subject to slight, often only individual variation, this species has by various authors been split up into many subspecies. Thus, those inhabiting the Palæarctic area have been subdivided as follows: *Certhia familiaris L.* (North, Central, and South Europe), *C. brachydactyla*, Brehm (Central Europe); *C. britannica*, Ridgw. (Great Britain); *C. scandulacea*, Pall. (Eastern Europe and Siberia); *C. hodgsoni*, Brooks (Kashmir); *C. japonica*, Hartert(Hondo and Nippon, Japan); and those inhabitating the Nearctic area as follows: *C. americana*, Bp. (Eastern North America); *C. montana*, Ridgw. (Rocky Mountains, north to Alaska); *C. occidentalis*, Ridgw. (California to Sitka); *C. alticola*, Miller (Mexico, Guatemala, and S. Arizona); and *C. albescens*, Berlepsch (N.W. Mexico and Arizona). I cannot, however, see my way to recognise any of these subspecies, but unite them all under *Certhia familiaris.*

288. HIMALAYAN TREE-CREEPER.

CERTHIA HIMALAYANA.

Certhia himalayana, Vigors, P.Z.S. 1831, p. 174; Gould, B. of Asia, ii, pl. 17; Gadow, Cat. B. Br. Mus. viii. p. 327; Oates, F. Brit. Ind. i. p. 329; *C. tæniura*, Severtz. Turk. Jevot. pp. 66, 128 (1873); Dresser Ibis, 1876, p. 176.

Ad. Turkestan. Differs from *C. familiaris* in having the upper parts blackish striped with fulvous, the rump and upper-tail coverts tinged with ferruginous, the tail regularly cross-barred with black; under parts white tinged with isabelline; upper mandible blackish; lower mandible fleshy; legs fleshy; iris dark brown. Culmen 0·98, wing 2·95, tail 2·80, tarsus 0·66 inch.

Hab. Turkestan, Afghanistan, and the Himalayas to China.

This is a large paler form of the Himalayan bird, and by those who would recognise it as a subspecies would be called *C. tæniura*; but I cannot see my way to separate it from true *C. himalayana.* In habits it closely resembles *C. familiaris*, and its nest and eggs do not differ from those of that species.

TICHODROMA, Illiger, 1811.

289. WALL-CREEPER.

TICHODROMA MURARIA.

Tichodroma muraria, Linn. Syst. Nat. i. p. 184 (1766); Naum. v. p. 421, Taf. 141; Gould, B. of E. iii. pl. 239; Dresser, iii. p. 207, pl. 123; Gadow, Cat. B. Br. Mus. viii. p. 331; Oates, F. Brit. Ind. Birds, i. p. 334; Saunders, p. 119; Lilford, ii. p. 116, pl. 53; Baedeker, Eur. Eier. Vög. Taf. 43, No. 5, (eggs).

Grimpereau de muraille, French; *Arañero*, Span.; *Piccio murajola*, Ital.; *Tsopanakos-kokkinos*, Greek; *Alpen Mauerklette*, German; *Stenolas*, Russ.

♂ *ad.* (Switzerland). Upper parts slate-grey, darker on the head and rump; quills blackish tipped with white, the 2nd to the 5th with a basal and sub-apical white spot on the inner web, the 6th with a buff basal spot, the primaries with the outer web, and the wing-coverts almost entirely crimson ; tail black tipped with grey and white ; under parts slate-grey, the throat and upper breast deep black ; bill curved, it and legs black ; iris brown. Culmen 1·25, wing 3·85, tail 2·3, tarsus 0·9 inch. The female is clearer grey and has less black on the throat. In winter both sexes have the upper parts clearer grey and the throat is white, not black. The young resemble the adult in winter dress but are duller and have the bill shorter and quite straight.

Hab. The alpine regions of Central and South Europe, Asia and North Africa ; a rare straggler to Great Britain.

Frequents the faces of rocks and precipices, flitting and creeping about them as the Creeper does the trunks and branches of trees in search of its insect-food, and, like that bird, is active and continually on the move with a side-long, crab-like motion, expanding and closing its wings like a large butterfly. As a rule it is wild and shy, and by no means easy to secure. Its call-note is said to be not unlike that of the Lesser Spotted Woodpecker, resembling the syllables *pli-pli-pli-pli*, and its Creeper-like song consists of several short, loud, melodious strophes in which the notes *di didi zää* are frequently repeated with variations. During the summer it frequents the mountains at considerable altitudes, descending into the valleys on the approach of winter. It breeds in the crannies and fissures of rocks, the nest being a mass of moss, hair, wool, &c., like a large Tree-Creeper's nest. and the eggs, 3 or 4 in number, are white, finely dotted with brownish red, oval in shape, and measure about 0·8 by 0·6. They are usually deposited early in June.

TROGLODYTES, Cuv., 1817.

290. Wren.

TROGLODYTES PARVULUS.

Troglodytes parvulus, Koch, Baier. Zool. i. p. 161 (1816) ; Naum. iii. p. 725, Taf. 83, fig. 4 ; Dresser, iii, p. 219, pl. 124, fig. 1 Newton, i. p. 460 ; Saunders, p. 115 ; Lilford, ii. p. 120, pl. 54 ; Baedeker, Eier, Eur. Vög. Taf. 43, fig. 1 (eggs) ; *T. europæus*, (Vieill.) Gould, B. of E. ii. pl. 130 ; id. B. of Gt. Brit. ii. pl. 63 ; *Anorthura troglodytes*, (L.) Macg. iii. p. 15 ; Sharpe, Cat. B. Br. Mus. vi. p. 269.

Roitelet, French ; *Carricinha das moitas*, Portug. ; *Cucito, Ratilla*, Span. ; *Re di macchia*, Ital. ; *Zaunkönig*, German ; *Winterkoning*, Dutch ; *Gjerdesmutte*, Dan. ; *Gjerdevippe*, Norweg. ; *Gärdsmyg*, Swed. ; *Peukaloinen*, Finn. ; *Krapivnik*. Russ.

♂ *ad.* (England). Upper parts reddish brown transversely barred with dark brown ; under parts buffy white, the belly and flanks browner, the latter slightly barred ; a dull white streak over the eye ; outer quills barred with blackish brown and dull brownish white on the outer web ; bill horn-brown, paler at base of lower mandible ; legs light brown ; iris brown. Culmen 0·6, wing 1·9, tail 1·4, tarsus 0·74 inch. The female is somewhat duller in colour and the under parts are browner, and the young are rather more spotted above and less barred on the underparts.

Hab. Europe generally ; Asia Minor, east to Persia ; N. Africa.

Confiding, trustful, and active in its movements, the Wren is one of our best known birds. It frequents gardens, outhouses, and groves, and appears to prefer the vicinity of man. Its flight is short and weak, but it creeps about the underbrush and hedges like a mouse, and with the greatest ease. Its call-note is sharp and clicking, and its song, which is uttered throughout most of the year, is loud, shrill, and pleasing. It feeds chiefly on insects and their larvæ, but also to some extent in the autumn on berries. It commences nidification early, building an oven-shaped nest of grass, moss, and lichens, with an entrance-hole on the side, and lines it with feathers. It is placed in a bush, against a tree, a wall or a bank, or in a thatch-roof. The eggs, which are deposited from the middle of April to June, are usually from 6 to 8 in number, and are white, more or less spotted with red, and measure from 0·63 by 0·47 to 0·68 by 0·50. Seebohm described the St. Kilda Wren as distinct, naming it (Zool. 1884, p. 333) *T. hirtensis* ; and Dr. Stejneger separates the bird from S.W. Norway as *T. bergensis*, but I cannot concur in either of these separations.

291. SUBSP. TROGLODYTES PALLIDUS.

Troglodytes pallidus, Hume, Stray Feathers, iii. p. 219, footnote (1873) ; (Sharpe), Cat. B. Br. Mus. vi. p. 273 ; Dresser, ix. p. 141.

Ad. (Turkestan). Differs from *T. parvulus* in being much paler and greyer lacking the warm rufous tinge on the upper parts ; under parts greyish white without any rufous or buff tinge. Culmen 0·5, wing 1·9, tail 1·35, tarsus 0·72 inch.

Hab. Transcaspia east to Eastern Turkestan.

In general habits it does not appreciably differ from *T. parvulus*, of which it is a pale desert form.

292. NORTHERN WREN.

TROGLODYTES BOREALIS.

Troglodytes borealis, Fischer. J.f.O. 1861. p. 14, pl. i; Baedeker, Eier, Eur. Vög. pl. 76, fig. 6 (egg); Dresser, iii. p. 229, pl. 124, fig. 2; (Sharpe), Cat. B. Br. Mus. vi. p. 272.

Mousabrouir, Færoese; *Músarbródir*, *Rindill*, Icelandic.

♂ *ad.* (Færoe). Resembles *T. parvulus* but is darker and has the under parts more strongly barred, the beak longer and stouter and the legs and feet much stouter. Culmen 0·65, wing 2·1, tail 1·5, tarsus 0·88 inch. Sexes alike.

Hab. Iceland and the Færoes.

In general habits it does not differ from *T. parvulus*, but its song is said to be louder. Its nest is rather larger and stouter than that of the Common Wren, is constructed of hay and well lined with feathers, and the eggs resemble those of that species, but are considerably larger, measuring 0·71 by 0·51.

MOTACILLA, Linn., 1766.

293. PIED WAGTAIL.

MOTACILLA LUGUBRIS.

Motacilla lugubris, Temm. Man. d'Orn. i. p. 253 (1820); Newton, i. p. 538; Dresser, iii. p. 239, pl. 125, fig. 3, 126, fig. 2; Sharpe, Cat. B. Br. Mus. x. p. 460; Saunders, p. 121; Lilford, iii. p. 101, pl. 52; *M. yarrelli*, Gould, B. of E. pref. to vol. ii. (1837); id. B. of Gt. Brit. iii. pl. 1; Hewitson, i. p. 163, pl. xli. figs, 1, 2; Naum. xiii. pt. 2, p. 114, Taf. 377, fig. 1.

♂ *ad.* (England). Head, neck, upper parts, throat and breast deep black; wing-coverts and inner secondaries externally margined with white; two outer tail-feathers nearly white; rest of tail black; forehead, sides of head and of neck and belly white; flanks blackish; bill and legs black. Culmen 0·6, wing 3·6, tail 3·75, tarsus 1·0 inch. The female has the back tinged with dark grey and the tail is shorter, and in winter both sexes lose the black on the chin and throat and are greyer. The young have the upper parts dull grey tinged with olive-buff, the throat, sides of neck, and breast buffy white tinged with yellowish, the lower throat and breast marked with black.

Hab. Great Britain and Western Europe as far east as southern Scandinavia, wintering in southern Europe as far east as Sardinia and Sicily, and in N. W. Africa.

Frequents gardens and meadows, especially where the soil is moist, and near water, feeding on insects of various kinds, small crustacea and mollusca. It runs with ease and grace, and vibrates its body and tail. Where cattle are pasturing it often attends them to capture the insects they disturb, and will also follow the plough. Its call-note is a pleasant sharp *cheep*, and the male has a modulated rather simple song, which, however, is not often heard. Nidification commences in April or early in May, and the nest, which is placed in a hole, in an old wall, in a faggot stack, in a bank, or stone heap, is constructed of grass-stems, moss, and fine roots, and lined with wool, hair, or feathers. The eggs, 5 or 6 in number, are french white spotted and marked with greyish-brown, and are indistinguishable from those of *M. alba*.

294. JAPANESE PIED WAGTAIL.

MOTACILLA LUGENS.

Motacilla lugens, "Pall." Kittlitz. Kupf. Vög. p. 16, pl. 21, fig.1 (1832); Sharpe, Cat. B. Br. Mus. x. p. 474, pl. iv. figs. 1–4; *M. japonica*, Swinhoe, Ibis. 1863, p. 309; *M. amurensis*, Seebohm, Ibis, 1878, p. 345, pl. ix; *M. blakistoni*, id. Ibis. 1883, p. 91; *M. camtschatica*, Tacz. Bull. Soc. Zool. France, 1882, p. 388.

♂ *ad.* (Japan). Differs from *M. lugubris* in having a narrow black streak passing through the eye, much more white on the wings, the median and larger coverts especially being almost entirely white, and the chin is also white. Bill and legs black; iris dark brown. Culmen 0·6, wing 3·8, tail 3·85, tarsus 0·95 inch. In the winter the upper parts are blackish grey and there is much less black on the throat and neck. This species differs from *Motacilla ocularis* only in having the back black, not grey, and in having more white on the wings.

Hab. Eastern Siberia, Kamchatka, and Japan, rare in China and Formosa.

In general habits it does not differ from its allies, frequenting damp localities, especially meadow-land, feeding on insects of various kinds. Its nest resembles that of *M. alba*, but is constructed of somewhat different materials, frequently of the leaves of an aquatic plant, and lined with hair of deer. The eggs, 5 or 6 in number, are french white rather boldly marked with greyish brown.

295. WHITE-FACED WAGTAIL.

MOTACILLA LEUCOPSIS.

Motacilla leucopsis, Gould, P.Z.S. 1837, p. 78; Sharpe, Cat. B. Br. Mus. x. p. 482; Oates F. Brit. Ind. Birds, ii. p. 288; *M. luzoniensis* (nec. Scop.), Gray, Cat. Mamm. &c., Nepal. p. 75; Jerd. B. of Ind. ii. p. 118.

Dhobin, Hindu ; *Tangzhenfleu*, Lepch.

♂ *ad.* (E. Siberia). Differs from *M. lugubris* in having the wings as white as in *M. lugens*; forehead to the middle of the crown, sides of head and neck and upper throat pure white, the lower throat and upper breast deep black. Culmen 0·55, wing 3·55, tail 3·7, tarsus 0·87 inch. In the winter the upper parts are greyer, and the black on the under parts is reduced to a crescentic patch on the upper breast.

Hab. Eastern Siberia, Himalayas, China, wintering in Southern China, the plains of India from Assam to Central Tenassarim, west to Mirzapur, also the Andaman Islands.

It does not differ from its allies in general habits, and probably its nest and eggs are similar, but I do not find any description of them. It is said to breed in Southern Dauria, Chinese Manchuria, and in China.

296. Hodgson's Wagtail.

MOTACILLA HODGSONI.

Motacilla hodgsoni, Gray, Blyth, Ibis. 1865, p. 49 ; Sharpe, Cat. B. Br. Mus. x. p. 486, pl. v. figs. 1, 2 ; Oates, F. Brit. Ind. Birds, ii. p. 291 ; *M. alboides*, Hodgs. As. Rev. xix. p. 191, 1836 (partim).

♂ *ad.* (Turkestan). Differs from *M. lugubris* in having more white on the wing-coverts, and there is more black on the head, the white being restricted to a frontal band, the region round the eye and a patch behind the eye. In the changes of plumage it follows *M. lugubris.* Bill and legs black ; iris brown. Culmen 0·62, wing 3·65, tail 3·70, tarsus 0·94 inch. In the winter dress the adult has the chin white.

Hab. Turkestan, Kashmir, the Himalayas, east to western China, wintering in the lower ranges of the Himalayas south to Tenasserim, a few visiting the plains of India.

In general habits it does not differ from its allies. It breeds in Kashmir about May, placing its nest in holes under stones, among shingle and pebbles, and on heaps of driftwood and rubbish. The eggs, which are greyish white, speckled with brown and grey, average in size about 0·78 by 0·62.

297. Large Pied Wagtail.

MOTACILLA MADARASPATENSIS.

Motacilla madaraspatensis, Gmel. Syst. Nat. i. p. 961 (1788) ; Gould, B. of Asia, iv. pl. 61 ; Sharpe, Cat. B. Br. Mus. x. p. 490 ; Oates, F. Brit. Ind. Birds, ii. p. 291.

Mamula, Khanjan, Hindu; *Sakala sarela-gadu*, Tel.

♂ *ad.* (India). Differs from *M. lugubris* in having no white on the head or neck excepting a broad superciliary stripe from the nostril to the ear-coverts, passing above these to their end; lesser and median wing-coverts black; larger wing-coverts nearly all white. Bill and legs black; iris brown. Culmen 0·68, wing 3·75, tail 4·1, tarsus 1·05 inch. There appears to be no seasonal change of plumage, and the female resembles the male, but has the upper parts tinged with grey and is considerably smaller. In the young bird the black is replaced by greyish brown, the supercilium in front of the eye is wanting, and the white portions of the plumage are tinged with fulvous.

Hab. Turkestan, India from Kashmir and Sind to Sikhim and Western Bengal, Ceylon. In India it is a permanent resident, occurring in the Himalayas in summer to an altitude of 3,000 feet, and breeds also in the plains of India.

In general habits it resembles the European bird, and frequents river-banks, ponds, brooks, &c. In the breeding season it is said to utter a pleasing song. It breeds from March to May, the nest being constructed of grass-bents, rootlets, fine twigs, and vegetable fibres, and lined with hair, wool, or feathers. It is placed in a hole in a bank, under stones, in the woodwork of bridges, or any such suitable place, and the eggs, usually 4 in number, are dull white or greenish white spotted and blotched with different shades of brown, and measure about 0·90 by 0·66.

298. White Wagtail.

MOTACILLA ALBA.

Motacilla alba, Linn. Syst. Nat. i. p. 331 (1766); Naum. iii. p. 803, Taf. 86, figs. 1–3; Hewitson, i. p. 165, pl. xli, figs. 3, 4; Gould, B. of Gt. Brit. iii. pl. 2; Newton, i. p. 548; Dresser, iii. p. 233, pls. 125, 126; Sharpe, Cat. B. Br. Mus. x. p. 464; Saunders, p. 123; Lilford, iii. p. 106 pl. 53; *M. dukhunensis*, Sykes, P.Z.S. 1832, p. 91.

Lavandière, French; *Pispita*, Span.; *Ballerina*, Ital.; *Mizizi*, Moor.; *Weisse Bachstelze*, Germ.; *Witte Kwikstaart*, Dutch; *Hvid Vipstjert*, Dan.; *Linerle*, Norweg.; *Sädesärla*, Swed.; *Pestur*, Lapp.; *Veästäräkki*, Finn.; *Bieloe Tresogushka*, Russ.; *Márin-Erla*, Icel.

♂ *ad.* (Germany). Forehead to the middle of the crown, sides of head and neck, and underparts from the breast white; hind crown and neck, chin, throat, and upper breast jet black; upper parts, scapulars, and lesser wing-coverts clear grey; wings black margined with white; two outer tail-feathers nearly white, the rest black. Bill and legs black; iris brown. Culmen 0·55, wing 3·55, tail 3·65, tarsus 0·9 inch. The female is rather greyer than the male and in winter dress the black on the breast is reduced to a crescentic patch. This species differs from *M. lugubris* in having the back clear grey, not black in summer, and much paler grey in winter, and in immature dress the upper parts are much greyer.

Hab. Europe generally, as far north as Iceland; N. Asia, wintering in the plains of India as far south as Belgaum, and in Burma as Moulmein; and also in Northern Africa as far south as Senegambia.

In general habits it does not differ from *M. lugubris*, and its nest and eggs closely resemble those of that species, with which, indeed, it is said to interbreed. It is a regular migrant to Great Britain, but M. *lugubris* is the common British species, and not *M. alba*.

299. SUBSP. MOTACILLA BAICALENSIS.

Motacilla baicalensis, Swinhoe, P.Z.S. 1871, p. 363; Sharpe, Cat. B. Br. Mus. x. p. 470.

♂ *ad.* (Lake Baikal). Differs from *M. alba* merely in having the white on the crown extending rather further back, and more white on the shoulders, that on the middle and larger wing-coverts almost entirely hiding the black at the base. Culmen 0·52, wing 3·5, tail 3·7, tarsus 0·95 inch.

Hab. Eastern Siberia, wintering in China.

This species is merely an eastern form of *M. alba*, from which it does not differ in general habits or nidification. It breeds in the southern Baikal district and in Dauria.

300. MASKED WAGTAIL.

MOTACILLA PERSONATA.

Motacilla personata, Gould, B. of Asia, iv. pl. 63 (1861); Sharpe, Cat. B. Br. Mus. x. p. 479, pt. v. figs. 3, 4; Dresser, ix. p. 143, pl. 663; Oates, F. Brit. Ind. Birds, ii. p. 290; *M. personata* var. *persica*, Blanf. E. Pers. ii. p. 232; Sharpe, tom. cit. p. 479.

Tresogushka, Russ.; *Kok-sunduk*, Turki; *Dhobin*, Hindu.

♂ *ad.* (Central Asia). Differs from *M. alba* in having the black on the head and neck much further extended, the secondaries and wing-coverts more broadly margined with white, the black on the head continued to the fore part of the back, the sides of the neck, and the fore part of the breast, the white restricted to a broad frontal band, the region round the eye, and a small patch behind the eye. Sexes alike. In the winter the feathers on the crown are margined with grey, those on the throat with white, and the upper parts are duller grey. Culmen 0·65, wing 3·75, tail 3·8, tarsus 1·05 inch.

Hab. Siberia, Central Asia, west to Transcaspia, and east to Calcutta, wintering in the lowlands of Transcaspia and in India.

In general habits it is said to assimilate closely with *M. alba.* It breeds in Transcaspia and Afghanistan, and places its nest near water under a large stone, in a hole, or amongst the roots of a tree, and deposits in May or June 4 or 5 eggs, which are dull white or greenish white marked with grey and brown, and resembling those of *M. alba.*

Motacilla persica (Sharpe *op. cit.* x. p. 479, pl. v. figs. 5, 6) appears to me to be a bad species, and is intermediate between *M. alba* and *M. personata,* but closer to the latter than the former, to which I have therefore referred it.

301. Streak-eyed Wagtail.

MOTACILLA OCULARIS.

Motacilla ocularis, Swinhoe, Ibis. 1860, p. 55; Nelson. Cruise, S. S. "Corwin" p. 62, pl. 2; Turner, Contrib. Nat. Hist. Alaska, p. 178, pl. xi; Sharpe, Cat. B. Br. Mus. x. p 471, pl. iv. figs. 5, 6; Oates, F. Brit. Ind. Birds, ii. p. 289.

♂ *ad.* (E. Siberia). Differs from *M. alba* in having a black streak passing from the lores through the eye and over the ear-coverts.

Hab. Kamchatka, Eastern Siberia, Mongolia, and China, wintering in southern China, Assam, Manipur, and Nepal, and straying to N.W. America.

In general habits it does not differ from its allies.

302. Grey Wagtail.

MOTACILLA MELANOPE.

Motacilla melanope, Pall. Reis. Russ. Reichs. iii. p. 696 (1776); Dresser, iii. p. 251, pl. 128; Sharpe, Cat. B. Br. Mus. x. p. 497; Oates, F. Brit. Ind. Birds, ii. p. 293; Saunders, p. 125; *M. boarula,* (nec. Scop.) Linn. Mantissa, p. 527 (1771); Hewitson, i. p. 167, pl. xlii. fig. 1; Gould, B. of E. ii. pl. 147; *M. sulphurea,* Bechst. Naturg. Deutschl. iii. p. 459 (1807); Newton, i. p. 552; Naum. iii. p. 824, Taf. 87; Lilford, iii. p. 108, pl. 54.

Bergeronnette jaune, French; *Alvelôa amarella*, Portug.; *Cuttirettola*, Ital.; *Graue Bachstelze*, Germ.; *Groote gele Kwikstaar*-Dutch; *Graa Vipstjert*, Dan.; *Grâärla*, Swed.; *Gornaya-Tresogushka*, Russ.

♂ *ad.* (Scotland). Crown, nape, and upper parts dark ash tinged with olivaceous; rump and upper tail-coverts greenish yellow; wings and tail blackish with paler margins, the outer tail-feathers white; supercilium and a streak on the side of the throat white; chin and throat black; rest of under parts canary-yellow; flanks washed with grey; bill blackish; legs fleshy brown; iris brown. Culmen 0·6, wing 3·25, tail 3·9, tarsus 0·85 inch. The female is duller and paler in colour and has the throat greyish white slightly marked with black. In the winter the throat is white in both sexes, the under parts are paler, and the pale margins on the secondaries are broader.

Hab. Europe generally as far north as Great Britain and Denmark; the Azores, Canaries, and Madeira, northern and central Asia as far east as Japan, wintering in northern Africa, India, Burma, and the Malayan Peninsular and islands.

It frequents rocky burns and running water in hilly and mountainous districts, and is seldom found on the plains or in meadows, and is as a rule shyer than the other species of Wagtail, especially when it finds itself followed. Its call-note is a sharp *zis-zit*, uttered several times in succession, and in the spring the male utters a softer note, which, however, cannot be called a song. Like its allies it feeds on insects, chiefly aquatic, and their larvæ. The nest is almost always near water, usually on the bank of a stream, and is constructed of grass-bents, rootlets, and moss, lined with fine roots, wool, or hair, and the eggs, which are usually deposited in April or May, 5 or 6 in number, are dull white closely marbled or freckled with pale yellowish brown, occasionally with a black streak or mark, and measure about 0·71 by 0·55.

Specimens from the Azores and Madeira are the most richly coloured, but do not specifically vary from the ordinary European form.

303. YELLOW-HEADED WAGTAIL.

MOTACILLA CITREOLA.

Motacilla citreola, Pall. Reis. iii. App. p. 696, No. 14 (1776); Naum. xiii. p. 117, Taf. 377, figs. 2, 4; Gould, B. of E. pl. 144; Dresser, iii. p. 245, pl. 127; Sharpe, Cat. B. Br. Mus. x. p. 503; Oates, F. Brit. Ind. Birds, ii. p. 298.

♂ *ad.* (Yenesei). Head, neck, and under parts rich canary-yellow; upper parts dark slate-grey; a black collar on the hind neck; wings and tail black, the former with whitish margins, the outer tail-feathers nearly white; bill and legs black; iris dark brown. Culmen 0·65, wing 3·33, tail 3·2, tarsus 1·05, hind toe with claw 0·7 inch. The female has the crown and nape dull yellowish grey, tinged with brown, the back browner; no black collar; wings and tail duller; superciliary line, lores, throat, and under parts canary-yellow. The young bird has the crown nape and upper parts dull grey washed with yellowish brown, the under parts dull white tinged with primrose, forehead and supercilium yellowish white, and the lower throat tinged with yellow and marked with greyish brown. In the winter the male resembles the female above described but is darker above, the forehead is yellow, the supercilium broader, the lower breast and abdomen primrose-yellow, and there are a few black marks on the lower throat.

Hab. North-east Europe and Siberia as far east as Lake Baikal and the Ussuri; Central Asia; China; wintering in the plains of India.

In general habits it differs but little from its allies, but affects chiefly marshy, humid localities, and it is but seldom seen in company with other species of Wagtails. Nidification commences late in May or in June, and the nest, which is constructed of grass-bents usually, but not always, lined with hair and a feather or two, is placed on the ground, well hidden in the marsh grass or under a low bush, and the eggs, usually 5 or 6 in number, are deposited late in June, and resemble those of *M. flava*, but are rather more stone-buff in tinge, and measure about 0·75 by 0·60.

304. Hodgson's Yellow-headed Wagtail.

MOTACILLA CITREOLOIDES.

Motacilla citreoloides, (Hodgs.) in Gray's Zool. Misc. p. 83 (1844); Gould, B. of Asia, iv. pl. 64; Sharpe, Cat. B. Br. Mus. x, p. 507; Oates, F. Brit. Ind. Birds, ii. p. 299; *Budytes calcaratus*, Hodgs. fide Blyth, Ibis. 1865, p. 49.

Pani-ka-pilkya, Hindu.

♂ *ad.* (Turkestan). Differs from *M. citreola* in having in summer the back, scapulars, rump, and upper tail-coverts deep black; in the winter it resembles *M. citreola* more closely, but has the upper parts darker and intermixed with black. The young resemble those of *M. citreola* so closely that I cannot see how they can always be distinguished.

Hab. The Altai mountains, Turkestan, Afghanistan, Kashmir, wintering on the southern slopes of the Himalayas and the plains of India, ranging east from Assam down to northern Tenasserim and Pegu.

In habits it would appear not to differ from *M. citreola.* It has been found breeding in Kashmir in May, the nest being placed in a depression in soft earth beneath a rock, and the eggs, 4 in number, are pale grey marked with greyish brown and greyish neutral tint, and measure about 0·95 by 0·70.

305. BLUE-HEADED WAGTAIL.

MOTACILLA FLAVA.

Motacilla flava, Linn. Syst. Nat. i. p. 331 (1766); Naum. iii. p. 839, Taf. 88; Hewitson i. p. 168, pl. xlii. fig. 2; Gould, B. of E. pl. 146; id. B. of Gt. Brit. iii. pl. 4; Newton, i. p. 558; Dresser, iii. p. 261, pl. 129, figs. 1, 2; Sharpe, Cat. B. Br. Mus. x. p. 516; Oates, F. Brit. Ind. Birds, ii. p. 295; Saunders, p. 127; Lilford, iii. p. 110, pl. 56.

Bergeronnette printanière, French; *Alvelôa amarella*, Portug.; *Pispita amarilla*, Span.; *Cutti*, Ital.; *Gelbe Bachstelze*, Germ.; *Gele Kwikstaart*, Dutch; *Gul Vipstjert*, Dan.; *Gulerle*, Norweg.; *Gulärla*, Swed.; *Fiskis-cicas*, Lapp.; *Kelta-Västäräkki*, Finn.; *Jeltaya Tresogushka*, Russ.

♂ *ad.* (Germany). Crown, nape, and sides of head ashy blue; upper parts deep greenish grey, greener on the rump; wings and tail dark brown, the former with yellowish or buffy white margins; outer tail-feathers nearly white; supercilium, a broad streak below the eye and chin white; rest of under parts rich canary-yellow; legs and bill black; iris brown. Culmen, 0·62, wing 3·3, tail 2·10 tarsus 1·0 inch. The female is paler and the head and nape are faintly tinged with olivaceous. In the autumn the yellow in the plumage is paler. The young bird has the crown and nape tinged with brown and the upper parts are greyish brown tinged with olivaceous, the under parts yellowish white and the breast and sides of the neck marked with blackish brown. In all plumages the white or whitish supercilium is present.

Hab. Europe as far north as Central Sweden, somewhat rare in Great Britain; Asia as far north as northern Siberia, ranging into N.W. America; wintering in Africa as far south as the Cape Colony, and in Asia as the Moluccas.

In its habits it has much in common with the common Yellow Wagtail, and frequents meadows, especially where cattle are grazing, marshy localities, and the vicinity of water. It is as a rule not shy, and moves about with the greatest ease and grace, catching insects on the wing as they rise from the grass with great adroitness. It feeds on insects of various kinds: gnats, small grasshoppers, caterpillars, &c. Its call-note is a clear piping note, often uttered, and in the spring the male utters a peculiar love-call resembling the syllables *zeer zeer*. The nest, which is placed on the ground, amongst the grass, in a hole, or in a bank, is constructed of grass-bents, fine roots, and moss, lined with finer bents, horsehair, or wool, occasionally also with a few feathers, and the eggs, which are usually deposited in June, in number from 4 to 6, are dirty white marbled and clouded with clay-brown or greyish or yellowish buff, and measure about 0·77 by 0·61. The amount of white on the cheeks varies considerably in individuals, and a variety having the cheeks white with only a broad slate-grey band passing through the eye has been separated specifically under the name of *Motacilla beema* Sykes (cf. Sharpe tom. cit. p. 521, pl. vi, fig. 6), but it appears to me to be undeserving of even sub-specific rank.

306. GREY-HEADED WAGTAIL.

MOTACILLA VIRIDIS.

Motacilla viridis, Gmel. Syst. Nat. i. p. 962 (1788); Newton, i. p. 560, footnote; Dresser, iii. p. 269, pl. 129, fig. 3; *M. cinereocapilla*, Savi. Nuov. Giorn. delle Lett. p. 190 (1831); Naum. xiii. pt. 2, p. 128, Taf. 373; Gould. B. of Gt. Brit. iii. pl. v; *M. borealis*, Sundev. Öfv. K. Vet. Akad. Förh, 1840, p. 53; Sharpe, Cat. B. Br. Mus. x. p. 522, pl. vii; Saunders, p. 128; Lilford, iii. p. 112, pl. 57.

Bergeronnette à tête cendrée, French; *Grauköpfige gelbe Bachstelze*, Germ.; *Strisciaiola capo-scuro*, Ital.; *Graahovedet Vipstjert*, Dan.; *Svarthufvad Gulärla*, Swed.

♂ *ad.* (N. Sweden). Differs from *M. flava* in having the lores, ear-coverts and region round the eye black, the head, and nape occasionally, blackish grey, and in some individuals there is a trace of a narrow white supercilium.

Hab. Northern Scandinavia, Russia, and Siberia, ranging further north than *M. flava*, wintering in Africa, India, Burma, and the Malay Peninsula. Is said to have occurred twice in Great Britain.

In habits it does not differ from *Motacilla flava*, and its nest and eggs are similar, except that the latter are as a rule rather darker.

307. BLACK-HEADED WAGTAIL.

MOTACILLA MELANOCEPHALA.

Motacilla melanocephala, Licht. Verz. Doubl. p. 36 (1823); Naum. xiii. pt. 2. p. 125, Taf. 374; Dresser, iii. p. 273, pl. 160; *M. feldeggi*, Michah. Isis. 1830, p. 814; Sharpe, Cat. B. Br. Mus. x. p. 527, pl. viii. figs. 1–5; *M. paradoxa*, Brehm. Vogelf. p. 142 (1855); Sharpe, tom. cit. p. 531.

Cutti-capo-nero, Ital.

♂ *ad.* (Asia Minor). Differs from *M. flava* in having the crown, nape, and sides of head deep glossy black, the back deeper green, and the under parts, including the chin and throat deeper yellow. Culmen 0·55, wing 3·2, tail 2·9, tarsus 1·0 inch.

Hab. South-eastern Europe; Central Asia, Persia, wintering in Africa and India.

In general habits it does not differ from *M. flava*, but is said to affect the vicinity of salt water. Its nest and eggs resemble also those of *M. flava*, but the eggs are rather darker and browner in tinge of colour.

Some specimens have a faint white supercilium, and these have been separated under the name *M. paradoxa* (Brehm) (cf. Sharpe tom. cit. p. 531, pl. viii, fig. 5), but after an examination of a large series of specimens I cannot concur in this view.

308. SUBSP. MOTACILLA XANTHOPHRYS.

Motacilla xanthophrys, Sharpe, Cat. B. Br. Mus. x. p. 532, pl. viii. fig. 6; Dresser, ix. 147, pl. 664.

♂ *ad.* Differs from *M. melanocephala* in having a clearly defined bright yellow supercilium.

Hab. The shores of the Black Sea to Persia.

In habits it does not differ from *M. melanocephala*, and its nest and eggs doubtless resemble those of that species, but are as yet unknown.

309. YELLOW WAGTAIL.

MOTACILLA RAII.

Motacilla raii, Bp. Comp. List, p. 18 (1838); Gould, B. of Gt. Brit. iii. pl. 3; Hewitson, i. p. 170, pl. xlii. fig. 3; Newton, i. p. 564; Dresser, iii. p. 277, pl. 131; Saunders, p. 129; Lilford, iii. p. 114, pl. 58; *M. campestris*, (nec. Pall.) Keys and Blas. Wirbelth, Eur. p. xlix (1840); Naum. xiii. pt. 2, p. 130, Taf, 372; Sharpe, Cat. B. Br. Mus. x. p. 510, pt. vi. figs. 1, 2.

♂ *ad.* (England). Upper parts olive-green becoming yellowish green on the crown and forehead; a broad yellow stripe over the eye, and another below the eye; sides of head otherwise olive-green; wings and tail as in *M. flava*, chin, throat, and under parts rich yellow; bill and feet blackish; iris brown. Culmen 0·6, wing 3·25, tail 3·0, tarsus 1·0, hind-toe with claw 0·68 inch. Occasionally an old male has the head entirely yellow. The female is duller and paler than the male. The young bird has the upper parts brownish olive, greener on the rump, under parts buffy white tinged with sulphur, the lower throat and breast washed with brownish buff, the superciliary stripe buffy white, and the margins to the wings and tail are broader and tinged with buff.

Hab. Great Britain, breeding in England and Scotland, but rare in Ireland; Northern France, and has been recorded as having strayed to Norway, South Russia, Central and Southern Europe on passage; wintering in Africa. In Asia it ranges as far east as Turkestan.

In habits it does not appreciably differ from *M. flava*, and, like that species, is most frequently seen in grass-land where cattle are pasturing, and feeds on insects and their larvæ. It not unfrequently perches on a twig or branch of a tree as well as on the ground. Its nest is placed on the ground usually well concealed in the grass or under a clod or tussock, and is constructed of grass-bents, rootlets, and occasionally moss, lined with finer bents and rootlets, or else with hair or wool. The eggs, from 4 to 6 in number, are usually deposited in May or June, and a second brood is often raised in the same season. The eggs are undistinguishable from those of *M. flava.*

310. EASTERN YELLOW WAGTAIL.

MOTACILLA TAIVANA.

Motacilla taivana, (Swinhoe), P.Z.S, 1863, p. 334; Sharpe, Cat. B. Br. Mus. x. p. 514; Tacz. F. O. Sib. O. p. 385.

♂ *ad.* (China). Upper parts including the crown greenish olivaceous; supercilium yellow; lores black; ear-coverts blackish olivaceous; under parts with throat and cheeks rich yellow, the sides of the breast and flanks olive-green, and the neck with dusky greenish spots ; bill and legs black ; iris dark brown. Culmen 0·55, wing 3·5, tail 2·9, tarsus 1·0 inch.

Hab. Eastern Siberia, Dauria, the Kurile Islands, China, and Formosa, wintering in the Malay peninsula.

In habits it is said to resemble *M. raii*, and, like that species, is usually seen near water. It breeds in the island of Saghalien, where it is common ; but so far as I know there are no particulars published relative to its nidification.

311. White-headed Wagtail.

MOTACILLA LEUCOCEPHALA.

Motacilla leucocephala, (Prjev.) Nov. vid. ptitz. Centr. Asie, Zap. Imp. Akad. Nayk. lv. p. 85 (1887) ; Pleske, Prjevalsky's Reisen, Vögel, p. 186, Taf. x. figs. 3, 4.

♂ *ad.* Head, chin, and cheeks white ; hinder part of head and nape smoke-grey ; upper parts yellowish olivaceous ; throat, breast, and under parts citron-yellow ; two pale bands across the wings. Culmen 0·6, wing 3·25, tail 2·92, tarsus 1·0 inch. The female has the upper parts smoke-grey, the back tinged with brown and the rump with olive-green ; supercilium, cheeks, chin, and throat pure white ; rest of under parts white washed with yellowish.

Hab. Dzungaria.

Nothing is known of this Wagtail beyond that Prjevalsky met with it on the spring passage on the Urungu river and in the Southern Altai, where it was in small parties of 5 to 10 individuals. In August he again met with it on the Tosso-nor in Tsaidam.

LIMONODROMUS, Gould, 1862.

312. Forest Wagtail.

LIMONODROMUS INDICUS.

Limonidromus indicus, (Gmel.) Syst. Nat. i. p. 962 (1788) ; Gould, B. of Asia, iv. pl. 67 ; Sharpe, Cat. B. Br. Mus. x. p. 532 ; Oates, F. Brit. Ind. Birds, ii. 300.

Uzhalla-jitta, Tel.

♂ *ad.* (India). Upper parts dull olive-green, under parts with chin throat, cheeks, and supercilium yellowish white ; tail-coverts blackish brown ; wings with two yellowish white bands across the coverts ; quills with a patch of yellowish white at base of outer web ; central rectrices olive-green, the outer nearly all white, the rest blackish brown ; two black bands across the breast, the lower broken in the middle , bill dusky brown above, fleshy white below ; legs purplish white ; iris nearly black. Culmen 0·55, wing 3·1, tail 2·7, tarsus 0·85 inch. Female similar, and winter dress not differing.

Hab. Eastern Siberia and North China, wintering in Eastern India, Ceylon, the Andamans, Southern China, Burma, Cochin China, Java, Sumatra, and Borneo.

In general habits it greatly resembles the true Wagtails, but frequents forest land and more often perches on the branches of trees. It breeds in the Ussuri country, N. China, and Corea, placing its nest on the branch of a tree far from the trunk ; but, so far as I can ascertain, its eggs are as yet undescribed.

ANTHUS, Bechstein, 1805.

313. TITLARK.

ANTHUS PRATENSIS.

Anthus pratensis, (Linn.) Syst. Nat. i. p. 287 (1766) ; Naum. iii. p. 774, Taf. 84, fig. 3 ; Hewitson, i, p. 173, pl. xliv. figs. 1, 2 ; Gould, B. of E. ii. pl. 136 ; id. B. of Gt. Brit. iii. pl. 13 ; Newton, i. p. 575 ; Dresser, iii. p. 285, pl. 132, fig. 1 ; Sharpe, Cat. B. Br. Mus. x. p. 580 ; Saunders, p. 133 ; Lilford, iii, p. 118, pl. 60.

Pipit des Prés, French ; *Petinha*, Portug. ; *Cinceta*, Span. ; *Pispola*, Ital. ; *Pieplerche*, German ; *Graspieper*, Dutch ; *Pibelærke*, Dan. ; *Grátitlingr*, Icel. ; *Engpiplærka*, Norweg. ; *Ängpiplärka*, Swed. ; *Cici-cicas* Lapp. ; *Heinä-kirvinen*, Finn. ; *Lugovoi-konek*, Russ.

♂ *ad.* (England). Upper parts blackish brown the feathers margined with olivaceous hair-brown ; rump almost uniform olivaceous brown ; under parts white, the sides of the neck, breast, and flanks profusely spotted with blackish brown, the breast washed with buff ; wings dark brown, the feathers margined with dull white and greenish olivaceous ; tail dark brown, the outer feather white except an oblique broad patch along the inner web, the next with a triangular white patch at the end of the inner web, the next three with a narrow pale external margin ; bill dark brown paler at the base of lower mandible ; legs light brown ; iris hazel ; hind claw slender, slightly curved, and as long as the toe. Culmen 0.6, wing 3·0, tail 2·25, tarsus 0·85 inch. The female does not differ from the male. In the winter the upper parts are browner and the under parts tinged with dull yellowish buff. The young bird has the upper parts more boldly marked and the breast and flanks washed with dull reddish buff.

Hab. Europe generally, ranging east to western Siberia and Turkestan, wintering in Northern Africa ; a common summer visitor to Iceland, but a rare straggler to Greenland.

Frequents open places, pastures, moors, and downs, in both dry and damp localities; it is essentially a ground bird, and but seldom perches on a tree or bush, and roosts on the ground. Its call-note is shrill and sharp, and its song, which is uttered on the wing is sweet, simple but not powerful, and may be heard from April to the end of July. It breeds tolerably early, depositing its eggs in April or May, and a second brood is usually raised in the same season. The nest is placed on the ground, is neatly constructed of grass-bents, rootlets, &c., and lined with finer bents and rootlets, or with horsehair. The eggs, 4 to 6 in number, are dull light grey, closely marked with dusky brown, reddish brown, or purplish grey, averaging in size about 0·76 by 0·58, and are subject to considerable variation.

314. CANARIAN PIPIT.

ANTHUS BERTHELOTI.

Anthus bertheloti, Bolle, J.f.O. 1862, p. 357 ; Dresser, iii. p. 291, pl. 133 ; Sharpe, Cat. B. Br. Mus. x. p. 591.

Caminero, Pajaro-cajon, Span.

♂ *ad.* (Teneriffe). Differs from *A. pratensis* in having the upper parts paler, more uniform in colour, and tinged with grey, the markings on the neck, breast, and flanks being dull brown narrow striations ; legs very pale brown. Culmen 0·65, wing 2·95, tail 2·5, tarsus 0·87, hind toe with claw 0·7 inch. The female resembles the male. The young bird has the feathers on the upper parts margined with rufous, and the legs pale, almost white.

Hab. Madeira and the Canary Islands.

Frequents open sandy, volcanic, or grassy places, and is often seen on the roads ; in general habits it resembles *A. pratensis*, and feeds on insects and seeds. It has no real song, but only a soft plaintive call-note. It places its nest, which is constructed of grass-bents and fine rootlets, on the ground, and deposits from 4 to 6 eggs, which are closely spotted with greyish brown on a dull white ground and resemble pale varieties of the eggs of *A. pratensis*.

315. TREE-PIPIT.

ANTHUS TRIVIALIS.

Anthus trivialis, (Linn.) Syst. Nat. i. p. 288 (1766) ; Newton, i. p. 569 ; Dresser, iii. p. 309, pl. 132, fig. 2 ; Sharpe, Cat. B. Br. Mus. x. p. 543 ; Saunders, p. 131 ; *A. arboreus*, Bechst. Naum. iii. p. 758, Taf. 84, fig. 2 ; Hewitson, i. p. 171, pl. xliii ; Gould, B. of E. iii. pl. 139 ; id. B. of Gt. Brit. iii. pl. 14 ; Lilford, iii. p. 115, pl. 59.

Pipit des arbres, French; *Sombria*, Portug.; *Cinceta*, Span.; *Prispolona*, Ital.; *Baumpieper*, German; *Boompieper*, Dutch; *Træpiber*, Dan.; *Træpiplærke*, Norweg.; *Trädpiplärka*, Swed.; *Metsä-kirvinen*, Finn.; *Lasnoi-konek*, Russ.

♂ *ad.* (England). Differs from *A. pratensis* in having the hind claw much shorter and more curved, and in having the under parts more buff in tinge, besides being larger and having paler legs; bill dark brown paler below; legs pale flesh colour; iris dark brown. Culmen 0·6, wing 3·42, tail 2·7, tarsus 0·9, hind toe with claw 0·68, hind claw 0·3 inch.

Hab. Northern and central Europe; northern Asia as far east as Krasnoyarsk, wintering in southern Europe, Africa, and western Asia.

In habits it differs from *A. pratensis* in frequenting woods, groves, and gardens in preference to open grassy localities, and is never seen far from trees and bushes, and perches freely on trees. Its call-note is loud and clear, though somewhat harsh, and its song is loud, rich, and full, somewhat resembling that of the Canary-bird. It is uttered when the bird is perched on a tree, or is circling on the wing, and never from on the ground. Its food consists chiefly, indeed almost solely, of insects and their larvæ. Its nest is placed on the ground, usually in a wood or the border of a copse, well concealed amongst the grass, and is constructed of dried grass and moss, lined with finer grasses, and the eggs, from 4 to 5 or even 6 in number, vary considerably both in colour and markings, some being so closely marked with dark red spots on a greyish ground, as to appear almost uniform dark red, others are, on a purplish white ground, either marked with dark hair-brown, or blotched with a few large purplish brown patches, and others again are marbled and spotted with rich red on a reddish white ground. In size they average about 0·80 by 0·65. Two broods are usually raised in the season, the first eggs being deposited in May.

316. SUBSP. ANTHUS MACULATUS.

Anthus maculatus Hodgs. in Gray's Zool. Misc. p. 83 (1844); Sharpe, Cat. B. Br. Mus. x. p. 547; Oates, F. Brit. Ind. Birds. ii. p. 304; *A. agilis* (nec. Sykes), Jerdon, B. of Ind. ii. p. 229; Gould, B. of Asia, iv. pl. 65.

♂ *ad.* (India). Differs from *A. trivialis* in being smaller, in having the upper parts strongly tinged with green, the streaks and middle of the feathers narrower and less defined; supercilium pale fulvous anteriorly and white posteriorly. Culmen 0·55, wing 3·3, tail 2·55, tarsus 0·85 inch.

Hab. Siberia east of the Yenesei, Japan, North China, and the Himalayas, wintering in Cochin China, Burma, and the plains of India.

In habits it resembles *A. trivialis*, frequenting wooded localities and flying up into a tree when disturbed. It breeds in May and June, placing its nest on the ground, and constructing it of grass-bents or moss, lined with fine bents or rootlets. The eggs, usually four in number, are thickly marked with dark brown and dingy purple on a greyish ground, and measure about 0·93 by 0·68.

317. RED-THROATED PIPIT.

ANTHUS CERVINUS.

Anthus cervinus (Pall.) Zoogr. Ross. As. i. p. 511 (1811); Naum. iii. Taf. 85, fig. 1; Dresser, iii. p. 299, pl. 135, 136; Sharpe, Cat. B. Br. Mus. x. p. 585; Oates, F. Brit. Ind. Birds, ii. p. 310; Saunders, p. 135; Lilford, iii, p. 120, pl. 61; *A. rufogularis*, Brehm. Vög. Deutschl. p. 340 (1831); Gould, B. of E. ii. pl. 140.

Rothkehlige Pieper, German; *Pispola gola rossa*, Ital.; *Brunstrubet-Piplaerke*, Norweg.; *Rödstrupig Piplärka*, Swed.; *Pellrakirvinen*, *Tunturi-kirvinen*, Finn.

♂ *ad.* (N. Sweden). Upper parts wings and tail as in *A. pratensis* but the upper parts are somewhat browner and the markings clearer; lores, supercilium, throat, breast, and to some extent the sides of the neck pinkish fawn; rest of the under parts yellowish buff, the breast here and there spotted with blackish brown; bill dark brown; legs fleshy brown; iris brown. Culmen 0·6, wing 3·2, tail 2·4, tarsus 0·9 inch. The female has the rufous generally restricted to the throat. The winter, and immature plumage closely resembles that of *A. pratensis* except that the under parts are more boldly spotted, and in old specimens there are remains of the rufous coloration in the winter dress.

Hab. Arctic Europe and Asia, as far east as Kamchatka, rare on migration in western Europe; of doubtful occurrence in Britain; wintering in northern Africa, eastern India, Burma and China, and at least as far south as Borneo. Of occasional occurrence in Alaska, and accidental in lower California.

Frequents moors and marshes, usually where there are bushes scattered about, and is frequently to be seen on the seashore. Its call-note is lower and softer than that of the Meadow-Pipit, and its song fuller and louder. It breeds usually in June, the nest being placed on the ground well concealed in the grass or under shelter of a bush, and constructed of dry grass-bents without lining or occasionally with a horsehair or two in the cup. The eggs vary considerably, some having the ground colour greenish grey, others brown, some are rich reddish brown, the colour of old mahogany, others dull brown, and others again greenish grey, closely spotted with brown, and I have seen some with large brown scratches like those on the eggs of the Lapland Bunting. In size they average about 0·75 by 0·58.

318. WATER-PIPIT.

ANTHUS SPIPOLETTA.

Anthus spipoletta, (Linn.) Syst. Nat. i. p. 288 (1766); Gould, B. of Gt. Brit. iii. pl. 11; Dresser, iii. p. 335, pl. 140; Oates, F. Brit. Ind. Birds, ii. p. 312; *A. spipoletta*, Newton, i. p. 589; Sharpe, Cat. B. Br. Mus. x. p. 592; Saunders, p. 141; Lilford, iii. p. 121, pl. 62; *A. aquaticus*, Bechst. Gemein. Naturg. Deutschl. iii. p. 745 (1807); Naum. iii. p. 789, pl. 85, figs. 2, 3, 4; Gould, B. of E. ii. pl. 138.

Pipit spioncelle, French; *Spioncello*, Ital.; *Wasserpieper*, German; *Vodyanaya-Shevresha*, Russ.

♂ *ad.* (Germany). Upper parts olivaceous brown tinged with grey, the rump more olivaceous; wings dark brown with paler margins to the coverts and secondaries; outer tail-feathers white obliquely on the terminal third, the second and third tipped with white, rest of the tail brown; supercilium yellowish buff; lores and sides of face greyish olivaceous; chin pale buffy white; throat, breast, and under parts generally pale rosy ferruginous; centre of abdomen and under tail-coverts dull white washed with pale ferruginous; under wing-coverts and axillaries greyish white; bill and legs blackish brown; iris dark brown. Culmen 0·7, wing 3·55, tail 2·8, tarsus 1·0 inch. Sexes alike. In the winter plumage the under parts are white, marked on the breast, sides of neck, and flanks with dull brown blurred spots and dashes.

Hab. Central and southern Europe, of rare or accidental occurrence in Great Britain, ranging across Asia to China, wintering in north Africa, north-west India, and China.

Frequents during the summer rocky desolate localities in the mountains near water, descending to the lowlands in the autumn. In its general habits it resembles the Meadow-Pipit, and its song resembles that of that bird, but is deeper in tone and harsher. It commences nidification in April or May, and two broods are usually raised in the season. The nest is placed on the ground, either amongst the herbage or amongst stones, and is constructed of grass-bents, fine roots, and moss, lined with fine roots, horsehair, or a little wool, and the eggs 4 or 5 in number, are greyish white, finely spotted and marked with hair-brown or reddish brown, in size averaging about 0·82 by 0·60. In India and eastern Asia the Water-Pipits are smaller than the European bird, and have on that account been described as specifically distinct under the names *A. blakistoni* (Swinhoe, P. Z. S., 1863, p. 90), and *A. neglectus* (Brooks, Ibis 1876, p. 501). *Anthus pennsylvanicus*, Lath., so nearly resembles the present species, that it has, in error, been included as a European bird.

319. HODGSON'S PIPIT.

ANTHUS ROSACEUS.

Anthus rosaceus, Hodgs. in Gray's Zool. Misc. p. 83 (1844); Sharpe, Cat. B. Br. Mus. x. p. 589; Oates, F. Brit. Ind. Birds, ii. p. 311.

♂ *ad.* (Himalayas). Resembles *A. spipoletta* differing only in being as a rule rather smaller and in having the axillaries and under wing-coverts sulphur-yellow; bill dusky, blackish on culmen and fleshy brown at base of lower mandible; iris dark brown; feet brownish fleshy; claws dusky. Culmen 0·5, wing 3·45, tail 2·4, tarsus 0·85 inch.

Hab. Afghanistan and the Himalayas to western China, wintering in the plains of India.

In habits it appears to resemble *A. spipoletta*, and its nest, which has been found in Nepal in May was placed on the ground in a tuft of grass and contained two eggs, and it has been found breeding in Darjeeling. The eggs are said to resemble those of *A. spipoletta* in size and coloration.

320. SUBSP. ANTHUS JAPONICUS.

Anthus japonicus, Temm. and Schlegel, Faun. Jap. Aves. p. 59, pl. 24, (1850); Sharpe, Cat. B. Br. Mus. x. p. 598.

Ad. Differs from *A. spipoletta* merely in having the upper parts rather more olivaceous in tinge and the under parts honey-buff and more boldly spotted. Culmen 0·55, wing 3·35, tail 2·6, tarsus 0·9 inch.

Hab. Kamchatka, Dauria, and the Ussuri country, wintering in Japan and China.

In habits it does not differ from *A. spipoletta*, and like that species frequents the coasts, and bush-covered plains. It has has been found breeding in Kamchatka. It is a somewhat doubtful species differing so little from *A. spipoletta* and the American Pipit *Anthus pennsylvanicus*.

321. ROCK-PIPIT.

ANTHUS OBSCURUS.

Anthus obscurus, (Lath.) Ind. Orn. ii. p. 494 (1790); Gould, B. of Gt. Brit. iii. pl. 10; Newton, i. p. 586; Dresser, iii. p. 343, pl. 141; Sharpe, Cat. B. Br. Mus. x. p. 599; Saunders, p. 143; Lilford, iii. p. 126, pls. 63, 64; *A. rupestris*, Nilss. Orn. Suec. i. p. 245, pl. 9, figs. 1, 2; Naum. xiii. p. 108, pl. 371, figs. 1, 2; *A. aquaticus*, (nec. Bechst.); Hewitson, i. p. 174, xliv. fig. 3.

Pipit obscur, French; *Spioncello marino*, Ital.; *Strandpieper*, German; *Skjaer-piplærke*, Norweg.; *Skjærpiber*, Dan.; *Skärpiplärka*, Swed.; *Luoto-kirvinen*, Finn.

♂ *ad.* (England). Upper parts olivaceous obscurely streaked with dark brown; rump brighter olivaceous very slightly streaked; wings and tail brown, the former margined with olivaceous, the outer tail-feathers with a broad oblique smoke-grey terminal band; an indistinct supercilium yellowish buff; under parts yellowish buff obscurely streaked with dark brown or olive-brown; bill dark brown, tinged with dull orange at the base of lower mandible; legs reddish brown; iris brown. Culmen 0·78, wing 3·5, tail 2·65, tarsus 0·95, hind toe with claw 0·75 inch. Sexes alike. In the winter the plumage is paler, the under parts much paler and less streaked, the centre of the throat almost unmarked. The young bird is darker, more clearly streaked above and more boldly marked below.

Hab. Northern Europe from the coasts of France east to the White Sea, north to northern Scandinavia, south into Spain, and has occurred in Morocco in the winter; resident in Great Britain.

Essentially a shore bird it frequents the barren rocky parts of the coast, never straying far inland. It feeds on marine insects and their larvæ, small molluscs, and seeds. Its song is tolerably pleasing, but short, and is uttered whilst the bird is on the wing. It breeds in April or May, and places its nest on the ground under a stone or ledge in a cliff, or amongst moss, constructing it of grass-bents, and sometimes seaweeds, lining it with finer bents or a little horsehair. The eggs, 4 or 5 in number, are grey with an olivaceous tinge in ground colour, closely marked with dark reddish brown or olivaceous brown, in size averaging about 0·82 by 0·65.

On the Norwegian and Swedish coasts a variety or form of this species occurs, which has the breast dull vinous in tinge, which may almost be considered as a sub-species, and this form *A. rupestris* (Nilss. Orn. Suec., i. p. 245) has occurred on passage in Great Britain, and been mistaken for *A. spipoletta*, from which it can readily be distinguished, in having the band on the outer tail-feathers smoke-grey and not white.

322. PETCHORA PIPIT.

ANTHUS GUSTAVI.

Anthus gustavi, Swinhoe, P.Z.S. 1863, p. 90; Sharpe, Cat. B. Br. Mus. x. p. 613; Tacz. F. O. Sib. O. p. 398; *A. seebohmi*, Dresser, iii. p. 295, pl. 134.

♂ *ad.* (Petchora). Upper parts warm buffy brown richly streaked with black and white; under parts as in *A. trivialis*; the pale portion of the rectrices smoke-buff, not white; wings as in *A. trivialis* but the ground colour much blacker; bill horn-brown lighter at the base of the lower mandible; legs pale brown; iris dark brown. Culmen 0·6, wing 3·3, tail 2·25, tarsus 0·95, hind toe with claw 0·85, hind claw 0·44 inch. Sexes alike. In winter plumage the upper parts are more olivaceous, the white stripes are more distinct and the under parts are washed with buff. The young bird has the plumage softer, the breast is more thickly spotted, the black spots extending up the greater part of the throat leaving the chin white.

Hab. The Petchora river in north-east Russia, eastward across Siberia to Kamchatka and the Commander Islands, passing through China, and wintering in the Philippines, Moluccas, Borneo, Timor, and Celebes.

In habits it resembles the Meadow-Pipit, but frequents marshy localities, and often perches on the branches of trees. Its song consists of a Lark-like *trilla*, and a low guttural warble, and is uttered when the bird is high in the air like a Lark. It feeds almost entirely on insects. It breeds in June and July, the nest, which is placed on the ground and well concealed, being constructed of flat-leaved grass, water-plants, and small leaves. Usually the nest is placed in swampy localities among the dwarf willows. The eggs, 4 to 5 in number, are dull greyish, very closely spotted with brown and dark grey, the ground colour being almost obscured, and measure from 0·80 by 0·58 to 0·98 by 0·65.

323. Tawny Pipit.

ANTHUS CAMPESTRIS.

Anthus campestris, (Linn. Syst. Nat. i. p. 288 (1766); Naum. iii. p. 745, Taf. 84, fig. 1; Gould, B. of Gt. Brit. iii. pl. 9; Newton, i. p. 592; Dresser, iii. p. 317, pl. 137; Sharpe, Cat. B. Br. Mus. x. p. 569; Saunders, p. 137; Lilford, iii. p. 127, pl. 65.

Pipit roussoline, French; *Petinha*, Portug.; *Calandrina*, Span.; *Calandro*, Ital.; *Brachpieper*, German; *Duinpieper*, Dutch; *Markpiber*, Dan.; *Fältpiplärka*, Swed.; *Kangas-kirvinen* Finn.; *Stepnaya-shevreska*, Russ.; *Chillu*, Hindu.

♂ *ad.* (Portugal). Upper parts ochreous sandy brown tinged with grey, indistinctly striped with dark brown; rump paler and less marked but the upper tail-coverts more distinctly striped; wings and tail blackish brown the former margined with ochreous buff, middle tail-feathers margined with tawny ochre and the two outer ones yellowish white, on the inner web bordered with blackish brown; supercilium and sides of face yellowish white the latter marked with dull brown; lores dark brown, the throat, breast, and under parts rich isabelline, washed with rufous and indistinctly spotted with pale brown on the breast; bill blackish brown above, dull yellowish at the base below; legs yellowish brown; iris dark brown. Culmen 0·7, wing 3·75, tail 3·2, tarsus 1·0, hind toe with claw 0·7 inch. Sexes alike.

Hab. Europe, rare as far north as Great Britain and Scandinavia; western Siberia, Afghanistan, and Turkestan, wintering in northern Africa, and the plains of north-west India.

Frequents sterile, sandy plains, and also to some extent, cultivated ground, and is restless and uneasy in its habits, and runs with ease like a Lark, moving its tail slightly when halting, somewhat after the manner of a Wagtail. Its call-note is monotonous, resembling the syllables *zer-vee*, and its song, which is weak and poor, is uttered whilst it is on the wing. Its food consists of insects of various kinds, very seldom of seeds. It breeds late in May, its nest being placed on the ground and constructed of dry grass-bents and rootlets, lined with fine roots or horsehair. The eggs, 5 to 6 in number, are blue grey, marked with umber-brown or brownish grey, closely and minutely spotted with reddish brown. In size they average about 0·82 by 0·62.

324. Richard's Pipit.

ANTHUS RICHARDI.

Anthus richardi, Vieill. Nouv. Dict. xxvi. p. 491 (1818); Naum. xiii. p. 94, Taf. 371, figs. 3, 4; Hewitson, i. p. 175, pl. xliv. fig. 4; Gould, B. of E. iii. pl. 35; id. B. of Gt. Brit. iii. pl. 8; Newton, i. p. 598; Dresser, iii. p. 325, pl. 138; Sharpe, Cat. B. Br. Mus. x. p. 564; Oates, F. Brit. Ind. Birds, ii. p. 307; Saunders, p. 139; Lilford, iii. p. 130, pl. 66.

Pipit-richard, French; *Churrica*, Span.; *Calandro forestiero*, Ital.; *Spornpieper*, German; *Groote-pieper*, Dutch.

♂ *ad.* (Belgium). Upper parts blackish brown the feathers broadly margined with reddish brown; rump and upper tail-coverts more uniform brown and duller; wings and tail blackish brown, the quills margined with pale buff and rufous, the coverts tipped with white and rufous; outer tail-feather nearly pure white, the next with the terminal part white, the middle feathers with rufous margins; supercilium whitish; under parts white, the throat, breast, and flanks washed with rufous buff, a line from the base of the bill and a band across the breast composed of blackish spots; bill and iris dark brown; legs light brown. Culmen 0·75, wing 3·7, tail 3·25, tarsus 1·2, hind toe with claw 1·25, hind claw 0·78 inch. Sexes alike. The young bird has the upper parts duller and paler, the under parts more profusely spotted, and all the wing-coverts and inner secondaries broadly margined with white.

Hab. Central, northern, and eastern Asia, occurring on passage in central, southern, and western Europe, rare in Scandinavia and Great Britain, wintering in India, Burma, China, and the Moluccas.

Frequents open bush-covered localities, both in the hills and on the plains, but is sometimes seen in the woods. It appears to prefer the vicinity of water, and occurs also in marshy places. It is generally seen on the ground, but also perches on bushes and plants. Its call-note is described as being a prolonged *tsi*, and its song, which is uttered whilst the bird is floating in the air like a Skylark, is feeble, short, and devoid of originality. It feeds on insects which it obtains on the ground. It breeds in Siberia from the Yenesei to Dauria and in central Asia, early in June, its nest being placed on the ground, like those of its congeners, and deposits 5 to 6 eggs yellowish white, pale yellowish olivaceous or rosy white, closely marked all over the surface of the egg with brown or brownish olivaceous, in size averaging about 0·89 by 0·65.

325. Brown Rock-Pipit.

ANTHUS SIMILIS.

Anthus similis, (Jerdon), Madr. Journ. xi. p. 35 (1840); Dresser, ix. p. 151, pl. 665; Oates, F. Brit. Ind. Birds, ii. p. 306; *A. sordidus*, (nec. Rüpp.) Jerdon, B. of Ind. ii. p. 236; Blanf. E. Pers. ii. p. 237; *A. jerdoni*, (Finsch.) Trans. Z. Soc. vii. p. 241 (1870); Sharpe, Cat. B. Br. Mus. x. p. 562; *A. griseorufescens*, (Hume), Ibis. 1870, pp. 286, 400.

♂ *ad*. (India). Upper parts pale ashy brown the feathers with brown shaft-stripes and fulvous margins; wings and tail brown margined with fulvous, the outer rectrix with outer web and tip creamy rufous, the next tipped with creamy rufous; supercilium and under parts sandy buff, the chin nearly white, the breast with a few pale brown spots; bill dark brown above, flesh coloured below; legs yellowish flesh; iris dark brown. Culmen 0·78, wing 4·0, tail 3·55, tarsus 1·12 inch. Sexes alike. In the winter the plumage is darker, the under parts being warm fulvous buff.

Hab. Persia, Afghanistan, Baluchistan, and the Himalayas, east to the Sikhim Terai and Mughal Sarai, wintering in India as far south as Khandesh, Jálna, and Nágpur.

In general habits it resembles *A. richardi*, and its note resembles that of that species, but is louder and clearer. Its nest is roughly constructed of grass, and placed on the ground amongst grass or under a bush, and the eggs, usually 4 in number, are deposited from May to July, and are brownish or greyish white, marked with brown and purple, measuring from 0·82 by 0·62 to 0·87 by 0·65.

326. Blyth's Pipit.

ANTHUS STRIOLATUS.

Anthus striolatus, Blyth, J.A.S. Beng. xvi. p. 435 (1847); Legge, B. Ceylon, p. 628; Sharpe, Cat. B. Br. Mus. x. p. 568; Tacz. F. O. Sib. O. p. 401; Oates, F. Brit. Ind. Birds, ii. p. 308; Pleske, Prjevalsky's Reisen, ii. Vög. p. 191.

♂ *ad*. (India). Differs from *A. richardi* in being much smaller, having a shorter hind claw, and much less white on the penultimate tail-feathers. Culmen 0·6, wing 3·35, tail 3·0, tarsus 1·0, hind claw 0·5 inch.

Hab. Southern Dauria, Mongolia, and the Himalayas, wintering in India as far south as Ceylon and the Andaman Islands, as far east as Burma, and as far west as Sind.

In habits it is said not to differ from Richard's Pipit. Its nest and eggs are as yet unknown.

It was described from Eastern Siberia as a new species (*A. godlewskii*, Bull. Soc. Zool. Fr., 1876. p. 128) by Taczanowski, who subsequently, however, ascertained that Siberian examples do not differ specifically from Blyth's *A. striolatus*, and have only the under parts somewhat less boldly striped.

ZOSTEROPS, Vig. and Horsf., 1827.

327. Japanese White-Eye.

ZOSTEROPS JAPONICA.

Zosterops japonica, Temm. and Schleg. Faun. Jap. Aves. p. 57, pl. 22 (1850); Gadow, Cat. B. Br. Mus. ix. p. 160; Seebohm, B. Jap. Emp. p. 168.

Mejiro, Japan.

♂ *ad.* (Japan). Upper parts grass-green; wings and tail dusky externally margined with grass-green; lores and forehead somewhat yellower than the back; a white ring round the eye, and a dusky spot in front of and below the eye; throat and fore neck sulphur-yellow; breast and flanks vinous brown; abdomen whitish, under tail-coverts yellow. Culmen 0·6, wing 2·32, tail 1·65, tarsus 0·7 inch. Sexes alike.

Hab. Japan.

Frequents woods, groves and gardens, and is found both in the hills and on the plains. In its general habits it is lively and active. Its nest is constructed of moss and lichens, lined with horsehair, and is placed on a bush or low tree from 4 to 6 feet from the ground, and the eggs, which are deposited in April, May, and June, from 3 to 4 in number, are unspotted bluish white, measuring about 0·65 by 0·49.

328. Chinese White-Eye.

ZOSTEROPS ERYTHROPLEURA.

Zosterops erythropleura, Swinhoe, Ibis. 1863, pp. 204, 208; Gould, B. of Asia, ii. pl. 35; Gadow, Cat. B. Br. Mus. ix. p. 161; Tacz. F. O. Sib. O. p. 198; David and Oust. Ois. Chine. p. 85; Berezovski and Bianchi, Ptitz. Gan-su. &c. p. 125; *Z. chloronotus*, (nec. Vieill.) Schrenck, Reis. Amurl. i. pt. 2. p. 365.

♂ *ad.* Differs from *Z. japonica* in having the sides of the neck and of the breast light blue-grey, the centre of same and the abdomen white, the flanks with a patch of chestnut; bill brown above, bluish below; legs blue-grey; iris hazel. Culmen 0·5, wing 2·35, tail 1·45, tarsus 0·6 inch. The female resembles the male but has the chestnut on the flanks paler.

Hab. Southern Amoorland, Northern China, Pekin; Moupin, and Kansu on passage, wintering probably in southern China.

It is generally found on trees amongst the branches and foliage on which it seeks its insect food. It does not appear to have any regular song, but utters a clear, somewhat long drawn call-note.

Siurus auricapillus and *Dendrœca coronata*, two common American birds, are said to have occurred in North-eastern Siberia, and the latter has been once recorded from Heligoland.

PYCNONOTUS, Boie, 1826.

329. Dusky Bulbul.

PYCNONOTUS BARBATUS.

Pycnonotus barbatus, (Desf.) Mém de l' Acad. Roy. des Sciences, p. 500, pl. xiii (1787); Dresser, iii. p. 353, pl. 142; Sharpe, Cat. B. Br. Mus. vi. p. 146; *P. obscurus*, (Temm.) Man. d'Orn. iv. p. 608 (1840).

Najanero, Span.; *Bou-lág-lág*, Moor.

♂ *ad.* (Morocco). Upper parts dull brown, head darker, wings and tail dark brown; lores and space before the eye blackish; chin and upper throat dull dark brown; centre of abdomen crissum and under tail-coverts white; rest of underparts pale ashy brown; bill and legs black; iris dark brown. Culmen 0·7, wing 4·1, tail 4·2, tarsus 1·0 inch. Sexes alike and the immature plumage similar but a trifle duller.

Hab. Algeria, Morocco, and West Africa, from the Gambia to the Niger.

Frequents wooded and bush-covered localities, is not shy, and is extremely garrulous. Its flight is Jay-like, but not strong or rapid, and when flushed it does not fly far, but perches in some exposed situation. It feeds on insects, berries, and fruit, and is very partial to ripe oranges. Its song is a clear melodious whistle, resembling the syllables *Pwhit, Pwhit, Qŭiterā, Qŭiterā.* It breeds in May, June, and July, placing its nest, which resembles that of a Woodchat Shrike, on the branch of a fruit tree, and deposits 3 to 4 eggs, which are very thin-shelled, greyish white, marbled and spotted with red or reddish brown surface spots, and purplish grey shell-markings, in size averaging about 0·98 by 0·73.

330. Palestine Bulbul.

PYCNONOTUS XANTHOPYGUS.

Pycnonotus xanthopygus, (Hempr. and Ehr.) Symb. Phys. fol. *bb.* (1829); Shelley, B. of Egypt, p. 68; Dresser, iii. p. 357, pl. 143, fig. 1; Sharpe, Cat. B. Br. Mus. vi. p. 135.

♂ *ad.* (Palestine). Head and upper neck glossy black; upper parts dull ashy brown; wings and tail umber-brown; under parts dull white washed with pale ashy brown on the breast and flanks; vent and under tail-coverts brilliant yellow; bill and legs black; iris dark brown; edge of the eye-lids grey. Culmen 0·7, wing 3·7, tail 3·8, tarsus 0·9 inch. Sexes similar and the young bird does not differ except in having the plumage duller.

Hab. North-east Africa, Arabia, Syria Palestine, Cyprus, Rhodes, and the Cyclades.

In its skulking habits it resembles *P. barbatus,* but is not gregarious, being usually seen in pairs.

It frequents wooded lowlands and gardens, and is not found in the mountains. Its song is exceedingly rich, indeed but little less so than that of the Nightingale, but it lacks the two last notes of that bird's song. Its nest is small and neat, not unlike that of *Fringilla cœlebs,* and is placed in a small fork or side branch of a tree. The eggs, 3 to 4 in number, are deposited late in April or early in May, and are white, covered with purplish grey shell-markings, and clear chocolate crimson surface-spots, averaging in size about 0·91 by 0·69.

Pycnonotus capensis, a South African species, has been once recorded from Ireland, but there is no doubt that it has no claim to be included, even as a straggler, among European birds.

331. WHITE-EARED BULBUL.

PYCNONOTUS LEUCOTIS.

Pycnonotus leucotis, (Gould), P.Z.S. 1836, p. 6 ; Jerdon, B. of Ind. ii. p. 91 ; Blanford. E. Pers. ii. p. 218 ; Sharpe, Cat. B. Br. Mus. vi. p. 136 ; Oates, F. Brit. Ind. Birds, i. p. 273.

Bhooroo, Sind. ; *Kushandra*, Punjab.

♂ *ad.* (India). Upper parts and wings earth-brown, dorsal feathers with paler margins, ear-coverts and hind part of cheeks white, the head, otherwise and the lower throat black ; tail brown at base, then black tipped with white ; under parts whity brown, under tail-coverts rich yellow ; bill and legs black ; iris brown. Culmen 0·7, wing 3·65, tail 3·6, tarsus 0·9 inch. Sexes alike. The young bird is duller in colour, the the head is brown, not black, and the under tail-coverts are yellowish buff.

Hab. Persia to north-west India, ranging as far east as central India.

Like its congeners it inhabits open bush-covered localities, and does not differ from them in its general habits. It breeds from May to August, the nest being placed in a bush, and constructed of vegetable fibres and plant-stems, lined with fine grass roots. The eggs, usually 3 in number, occasionally 4, are white, much dotted with claret-red, and measure 0·91 by 0·64.

332. WHITE-CHEEKED BULBUL.

PYCNONOTUS LEUCOGENYS.

Pycnonotus leucogenys, (Gray), in Hardw. Ill. Ind. Zool. ii. pl. 35, fig. 3 (1830) ; (Jerd.) B. of Ind. ii. p. 90 ; (Sharpe), Cat. B. Br. Mus. vi. p. 160 ; (Oates), F. Brit. Ind. Birds, i. p. 272.

Kandghara, Beng. ; *Manglio-kur*, Lepch. ; *Painju*, Chamba.

♂ *ad.* (India). Upper parts olive-brown, the hinder part and sides of neck barred with blackish, the centres of the feathers brown ; wings brown margined with olivaceous ; tail brown at the base, otherwise black, tipped, except the lower central feathers, with white ; forehead and crest hair-brown, narrowly margined with greyish white ; lores black ; a white line from the nostrils above the forepart of the eye ; ear-coverts and hind cheeks white with a small blackish brown spot behind ; under parts pale brown, the abdomen whitish, the under tail-coverts sulphur-yellow ; edge of the wing whitish ; bill black ; legs plumbeous ; iris brown. Culmen 0·7, wing 3·5, tail 3·5, tarsus 0·8 inch.

Hab. Afghanistan, and the Himalayas from Murree to Bhutan.

In the summer it is found in the mountains at from 3,000 to 7,000 feet altitude, descending to the plains in the autumn. It breeds late in May or in June, and its nest is placed on a bush or in the fork of a low tree, and is constructed of dried plant-stalks and grasses, lined with fine grasses. The eggs, 3 to 4 in number, are purplish white speckled all over, but chiefly at the larger end, with purple brown and purplish grey spots and blotches, and average about 0·88 by 0.65.

333. RED-VENTED BULBUL.

PYCNONOTUS INTERMEDIUS.

Pycnonotus intermedius (Jerdon), B. of Ind. ii. p. 95 (1862) ; (Sharpe), Cat. B. Br. Mus. vi. p. 130 ; (Oates), F. Brit. Ind. Birds, i. p. 272.

♂ *ad.* (India). Head, throat, and hind-neck black ; upper parts brown margined with grey ; wings brown narrowly margined with whitish ; upper tail-coverts dull whitish ; tail brown at base, otherwise black and tipped with white ; ear-coverts chocolate ; upper breast and sides of neck blackish brown ; lower breast and flanks ashy brown ; under tail-coverts crimson ; rest of under parts dull ashy white ; bill and legs black ; iris brown. Culmen 0·85, wing 4·0, tail 4·2, tarsus 1·0 inch.

Hab. Afghanistan, Kashmir, the lower ranges of the Himalayas from Naini-Tal, and Almora to Murree ; North Punjab and North-West Provinces, and Oudh down to Allahabad and Chupra.

In general habits it does not appear to differ from its congeners. It breeds from April to July, the nest which is placed on a bush, being constructed of fine roots, plant-stems, and a few leaves, with cobwebs and silky seed-down on the outside, and lined with fine roots. The eggs, 3 to 4 in number, are deep pink, blotched with deep claret-red, and average about 0·87 by 0·62.

HYPSIPETES, Vigors, 1831.

334. Brown-eared Bulbul.

HYPSIPETES AMAUROTIS.

Hypsipetes amaurotis (Temm.), Pl. Col. ii. pl. 497 (1820–39); (id. and Schlegel), Faun. Jap. Aves. p. 68, pl. xxxi B; David and Oust. Ois. Chine, p. 135; Sharpe, Cat. B. Br. Mus. vi. p. 42.

Hiyodori, Jap.

♂ *ad.* (Japan). Upper parts slate-grey, the head silvery grey, the lower back and rump washed with olive; wings brown margined with fulvous brown, the inner secondaries with grey; lesser wing-coverts slaty grey; tail brown, margined with grey; lores blackish; ear-coverts chestnut; cheeks and throat hoary grey tipped with whitish; neck and breast ashy brown spotted with white; sides of breast grey; flanks reddish brown spotted with white; lower abdomen dull white; under tail-coverts brown margined with white; bill black; legs purplish brown; iris dark hazel. Culmen 1·2, wing 5·2, tail 4·9, tarsus 0·9 inch. Sexes similar.

Hab. Japan, Corea, and Eastern China, breeding in Northern Japan, and in the mountains in Southern Japan, and wintering on the plains.

It does not differ in habits appreciably from the other Bulbuls. It breeds from early in May to the end of July, and places its nest in a low tree or a bush, constructing it of twigs, moss, and coarse roots, lining it with fine roots. The eggs, usually 4 in number, are said to be in size about equal to those of *Turdus merula*, but are pinkish white, with purplish grey underlying shell-markings and reddish brown surface-spots.

ORIOLUS, Linn., 1766.

335. Golden Oriole.

ORIOLUS GALBULA.

Oriolus galbula, Linn. Syst. Nat. i. p. 160 (1766); Naum. ii. p. 171, Taf. 61; Hewitson, i. p. 94. pl. xxvi. fig. 1; Gould, B. of E. ii. pl. 71; id. B. of Gt. Brit. ii. pl. 31; Newton, i. p. 233; Dresser, iii. p. 365, pl. 144; Sharpe, Cat. B. Br. Mus. iii. p. 191; Saunders, p. 145; Lilford, iii. p. 98. pl. 49.

Loriot, French; *Papa-figos,* Portug.; *Oropendola,* Span.; *Rigogolo,* Ital.; *Pirol, Goldamsel,* German; *Wielewall,* Dutch; *Guldperol,* Dan.; *Sommargylling,* Swed.; *Kuhankeittäjä,* Finn.; *Ivolga,* Russ.

♂ *ad.* (Finland). Above and below rich golden yellow; lores black; wings jet black with narrow external margins and tips of sulphur-yellow; edge of wing and under wing-coverts rich yellow; tail jet black, the outer feathers broadly, the inner ones less terminated with yellow, the two central ones only tipped with that colour; bill dull reddish; legs plumbeous; iris blood-red. Culmen 0·95, wing 5·9, tail 3·6, tarsus 0·85 inch. The female is duller in colour, has the back and scapulars tinged with green, the under parts yellowish white striped with blackish brown, or in very old birds yellow like the male. The young bird has the upper parts greyish yellow washed with green, the under parts white tinged with yellow and clearly streaked with blackish brown.

Hab. Europe generally, a rare visitant to Great Britain; Asia Minor, Persia and Turkestan, ranging as far east as Sind and Dauria, where it is rare; wintering in Africa as far south as Damaraland and Natal.

In its general habits it is restless, shy, and unobtrusive, frequenting groves, wood, and gardens, usually keeping amongst the foliage high up in the trees. Its flight is rolling and heavy, but swift. Its alarm-note is a harsh *chrrr,* and it has a peculiar harsh, mewing call-note. Its song is a clear, loud whistle, resembling the syllables *huidleo, huitidleo, huidleo.* It feeds on insects, berries, and fruit of various kinds. It breeds late in May or early in June, building a neat basket-shaped nest of strips of bark, grass-bents, &c., lined with fine grass-bents, and placed in the small fork of a branch, to which it is carefully twisted and woven. The eggs, 4 to 5 in number, are glossy white, marked with a few pale purplish brown shell-blotches, and more or less spotted with deep reddish brown, in size averaging about 1·20 by 0·85.

336. INDIAN ORIOLE.

ORIOLUS KUNDOO.

Oriolus kundoo, Sykes, P.Z.S. 1832, p. 87; Jerdon, B. of Ind. ii. p. 107; Sharpe, Cat. B. Br. Mus. iii. p. 194; Oates, F. Brit. Ind. Birds, i. p. 504, Hend. and Hume. Lah. to Yark. p. 200, pl. xi.

Pilak, Hind.; *Vanga-pandu,* Tet.; *Pawseh,* Mahr.; *Pashnool,* Kashm.

♂ *ad.* (India). Differs from *O. galbula* only in having the black on the lores extending to a patch round and behind the eye, and having more yellow on the tail, the outermost feather being almost entirely yellow. Culmen 1·2, wing 5·6, tail 3·7, tarsus 0·95 inch.

Hab. Afghanistan, Turkestan, Kashmir, and the higher ranges of the Himalayas.

In its general habits, food, and nidification it does not differ from *O. galbula.*

337. BLACK-NAPED ORIOLE.

ORIOLUS INDICUS.

Oriolus indicus, Jerd. Ill. Ind. Orn. pl. 15 (1847); id. B. of Ind. ii. p. 109; Oates, F. Brit. Ind. Birds, i. p. 502; *O. diffusus*, Sharpe, Cat. B. Br. Mus. iii. p. 197 (1877); Beresovski and Bianchi, Ptitz. Gan-su. &c. p. 120 (1891).

♂ *ad.* (India). Differs from *O. kundoo* in having the lores, a streak through the eye joining a broad band across the nape deep black, and the inner secondaries have the whole outer web and part of the inner web yellow; bill pinky red; legs plumbeous; iris pink. Culmen 1·25, wing 6·0, tail 4·0, tarsus 1·0 inch. The female resembles the male, but has the back tinged with green. The young are yellowish green above with but little trace of the black nuchal band; below whitish with dark stripes.

Hab. Mongolia, Dauria, the Ussuri country, and China, wintering in India, Ceylon, Burma, and as far south as Penang.

In general habits it resembles *O. galbula*, but its song is said to be louder. It inhabits non-evergreen groves and woods, and larch-groves, and is very shy. It breeds in Dauria, the Ussuri country, and North China, its nest and eggs resembling those of *O. galbula.*

Dr. Sharpe states that *Dicrurus leucogenys* (Walden) occurs in Japan, but I can find no instance of its occurrence there or elsewhere in the Palæarctic area.

LANIUS, Linn., 1766.

338. GREAT GREY SHRIKE.

LANIUS EXCUBITOR.

Lanius excubitor, Linn. Syst. Nat. i. p. 135 (1766); Naum. ii. p. 7, Taf. 49; Hewitson, i. p. 69, pl. xx. fig. 1; Gould, B. of Gt.; Brit. ii. pl. 13; Newton, i. p. 199; Dresser, iii. p. 375, pl. 145; Gadow, Cat. B. Br. Mus. viii. p. 237; Saunders, p. 147; Lilford, ii. p. 70.-pl. 32.

Pie-grièche grise, French; *Averla maggiore,* Ital.; *Grauer Würger,* German; *Klaauwier,* Dutch; *Graa, Torniskade,* Dan.; *Varsler,* Norweg.; *Större Törnskata,* Swed.; *Isompi-Lepinkäinen,* Finn.; *Skirri, Mettähakki,* Lapp.; *Europaiski Sorokoput,* Russ.

♂ *ad.* Upper parts light blue-grey; a narrow line on the forehead and over the eye white; lores and a large patch below the eye, including the ear-coverts deep black; scapulars broadly and secondaries narrowly tipped with white; wings black with a double or occasionally a single white band; lesser coverts blue-grey; tail black the outer feathers almost altogether, and the others, the two centre excepted, broadly terminated with white; chin, throat, and under parts white; bill and legs blackish; iris brown. Culmen 0·7, wing 4·4, tail 4·0, tarsus 1·0 inch. The female has the under parts greyish with traces of indistinct transverse vermiculations, and the young are duller, the black portions are tinged with brown, the under parts are dirty greyish white, and the bill and legs brown.

Hab. Europe generally, ranging into western Asia.

Bold and fearless, it does not seek concealment, but may usually be seen perched on a bare bough or the top of a tree or bush, and is to be met with both in the hills and plains, in orchards, plantations, or fields where trees are scattered about. It feeds on large insects, lizards, frogs, mice, and small birds, and has a habit of fixing its prey, when secured, on a thorn or in a small tree-fork. Its call-note resembles the syllable *truü,* and its cry *shek, shek.* It is often made use of by falconers when trapping hawks, to give notice of the approach of a bird of prey. It breeds as far north as Lapland, and sometimes two broods are raised in the year. Its nest, which is placed in a large bush or in a tree, often in a fruit tree, is constructed of twigs, bents, and moss, lined with wool, feathers, or hair, and is large and bulky. The eggs, 4 to 6, and sometimes even 7 in number, are dull white, with purplish grey underlying shell-markings, and dull brown surface-spots and blotches, and in size average about 1·07 by 0·77.

As regards the supposed occurrence of *L. major* Pall., in Europe, I fully agree with Prof. Collett (Ibis, 1886, pp. 30—40) that the specimens obtained were only varieties of *L. excubitor.*

339. WHITE-WINGED SHRIKE.

LANIUS LEUCOPTERUS.

Lanius leucopterus, Severtz. Turk. Jevot. p. 67 (1873); Gadow. Cat. B. Br. Mus. viii. p. 242; Dresser, ix. p. 162, pl. 668, fig. 2; *L. prjewalskii*, Bogd. Sorokop. Russk. Faun. p. 147, pl. iii. fig. 2.

♂ *ad.* (Ferghana). Much paler in coloration than *L. excubitor*, with more white on the wing, some of the secondaries having the entire inner web white; rump and upper tail-coverts white, and the three outer tail-feathers nearly pure white. Culmen 0·9, wing 4·7, tail 4·75, tarsus 1·1 inch. The female resembles the male but is a trifle smaller.

Hab. Transcaspia and Turkestan, ranging north to Krasnoyarsk.

In habits it does not differ from *L. excubitor*, and its nest and eggs will be found to resemble those of that species. *L. homeyeri* Cab. (J. f. O., 1873, p. 75), is a form intermediate between the present species and *L. excubitor*, approaching rather nearer to the former than the latter.

340. LONG-TAILED GREY SHRIKE.

LANIUS SPHENOCERCUS.

Lanius sphenocercus, Cabanis, J.f.O., 1873, p. 76; David and Oust. Ois. Chine, p. 92, pl. 76; Bogd. Sorokop. Russk. Faun. p. 149; Gadow, Cat. B. Br. Mus. viii. p. 242; Tacz. F. O. Sib. O. p. 485.

Sorokoput klinochoostui, Russ.

♂ *ad.* Differs from *L. excubitor* in having more white on the wings, the upper tail-coverts grey like the back, the three outer tail-feathers white with a dark shaft, the fourth with but little black on it, and the tail considerably longer. Culmen 0·9, wing 4·85, tail 5·7, tarsus 1·35 inch.

Hab. South-eastern Siberia, Mongolia, Corea, and China.

In general habits does not differ from *Lanius excubitor*, and its nest and eggs, of which I cannot find any description, will doubtless be found to resemble those of that species.

341. AMERICAN GREY SHRIKE.

LANIUS BOREALIS.

Lanius borealis, Vieill., Ois. Am. p. 90, pl. i. (1807); Aud. B. Amer, iv. p. 130, pl. 236; Gadow, Cat. B. Br. Mus. viii. p. 240; Dresser, Ibis, 1892 p. 377; Ridgway, p. 466, *L. major*, Pall. Zoogr. Ross. As. i. p. 401 (1811); Tacz. F. O. Sib. O. p. 487; Gadow, Cat. B. Br. Mus. vii. p. 239.

♂ *ad.* (E. Siberia). Differs from *L. excubitor* in having as a rule less white on the wing, forming only one speculum, the under parts barred with narrow transverse vermiculations, and the grey is often tinged with brown.

Hab. Kamchatka, Siberia from the Yenesei to the Pacific; North America from California to the Atlantic coast, in winter south to the Potomac and Ohio valleys.

I do not find that this species occurs in Europe proper. The Siberian bird is often less brown in tinge than the American and Prof. Bogdanoff (Sorokop. Russk. Faun. p. 102) makes two subspecies *L. borealis sibiricus* and *L. borealis americanus*, but I cannot agree with him that there is any valid distinction between them, and his *L. borealis europæus* (Op. cit. p. 103) I consider to be merely a variety of *L. excubitor* having a single alar bar or speculum.

In general habits and in nidification the present species does not differ from *L. excubitor*, and its nest and eggs closely resemble those of that species.

Lanius seebohmi Gadow (Cat. B. Br. Mus, viii. p. 243) of which only the type from the valley of the Amoor is known, is a very doubtful species, differing from the present in having a narrow black frontal band, much less white on the tail, and the under parts dull white. It has also only one alar bar. Its measurements are, culmen 0·85, wing 4·8, tail 4·7, tarsus 1·15 inch.

342. MONGOLIAN GREY SHRIKE.

LANIUS MOLLIS.

Lanius mollis, Eversm. Bull. Soc. Nat. Mosc. xxvi. p. 498 (1853); Bogdanoff, Sorokop. Russk. Faun. p. 97 (partim); Gadow, Cat. B. Br. Mus. viii. p. 241.

Ad. (Mongolia). Resembles tawny specimens of *L. borealis*, but has the upper and under tail-coverts sandy buff, and the rump fulvous; wing with a single alar bar. Culmen 0·9, wing 4·70, tail 4·65, tarsus 1·1 inch.

Hab. Altai range, Mongolia, Nov. Ssaissan, Chami.

In habits it does not differ from *L. excubitor*, and I do not find anything on record respecting its nidification.

343. SUBSP. LANIUS FUNEREUS.

Lanius funereus, Menzbier, Ibis, 1894 p. 379; Dresser, ix. p. 157, pls. 667 and 668 fig. 1; *L. mollis*. Bogd. Sorokop. Russk. Faun. p. 97 (partim) pl. ii.

♂ *ad.* (Kashgaria). Differs from *L. mollis* in being darker, greyer, less tinged with buff, and has the larger upper tail-coverts marked with a distinct terminal black band. The young of the two species are not distinguishable both having the upper tail-coverts vermiculated with dull black. Culmen 1·06, wing 5·1, tail 5·0, tarsus 1·0 inch.

Hab. Turkestan, Kashgaria, the Irtisch river, and has occurred as far west as Archangel.

344. PALLID SHRIKE.

LANIUS ELEGANS.

Lanius elegans, Swains. Faun. Bor. Amer. ii. p. 122 (1831); Gadow, Cat. B. Br. Mus. viii. p. 251, pl. vii; Dresser, ix. p. 167; *L. dealbatus*, De Fil. Rev. and Mag. de Zool. 1853, p. 289; Gadow, tom. cit., p. 250, pl. vi; *L. assimilis*, A. and L. Brehm, J.f.O., 1854 p. 147; Bogd. Sorokop. Russk. Faun. p. 160; Gadow, tom. cit., p. 249; *L. hemileucurus*, Finsch. and Hartl. Vög. Ost. Afr. p. 239 (1870); Gadow, tom. cit., p. 249; *L. lahtora*, (part.), Dresser, iii. p. 381, pl. 146, (lower figure); Rey. J.f.O. 1896, Taf. vi. fig. 6. (eggs).

♂ *ad.* (N. Africa.). Upper parts pale blue-grey, under parts white; lesser wing-coverts entirely grey; alar patch rather large; a narrow frontal band, lores, and a broad patch passing through and behind the eye deep black, above narrowly margined with white; wings black, the secondaries with the inner webs chiefly white; outer tail-feather white, the next white with a black shaft line, the next two black broadly tipped with white, the two middle ones black with a narrow white tip; bill and legs blackish horn; iris brown. Culmen 0·8, wing 4·1, tail 4·4, tarsus 1·2 inch.

Hab. North Africa, Asia Minor, Transcaspia, Turkestan, Afghanistan, straying as far east as the Punjab.

In habits it does not differ from its near allies and inhabits open bush-covered localities, desert places, and the plains in preference to the hills. It feeds on insects, especially on beetles and locusts, occasionally on small mammals and birds. Its flight is laboured and it usually flies low, from bush to bush. Its call-note is loud and sharp and it is an excellent mimic. Its nest is placed on a bush or low tree, is constructed of fine twigs, plant-stems, and grass-bents, well lined with fine bents, wool, plant-cotton, and small rags, and the eggs 5 to 7 in number, are pale greenish yellow or dirty greyish white with underlying dull lilac shell-markings and liver-brown surface-spots and blotches, in size averaging about 1·0 by 0·75.

345. INDIAN GREY SHRIKE.

LANIUS LAHTORA.

Lanius lahtora (Sykes), P.Z.S. 1832, p. 86; Gray and Hardw. Ill. Ind. Zool. ii. pl. 32; Jerd. B. of Ind. i. p. 400; Gadow, Cat. B. Br. Mus. viii. p. 252; Dresser, iii. p. 381, partim; Oates, Faun. Brit. Ind. Birds, i. p. 459.

Dudiya latora, Hind.; *Kach-kacha-latora,* Beng.; *Chinka bellinchi,* Tel.

♂ *ad.* (India). Differs from *L. elegans* in having the lesser wing-coverts black, or black slightly tipped with grey and the black frontal band broad and well defined. Culmen 0·85, wing 4·2, tail 4·6, tarsus 1·2, inch.

Hab. Afghanistan; the plains of India from Sind to Western Bengal, and south to Belgaum.

In its general habits it does not differ from *L. elegans* and inhabits the plains, not ascending the hill ranges. It breeds from January to August, its nest and eggs not differing from those of *L. elegans.*

346. GRIMM'S GREY SHRIKE.

LANIUS GRIMMI.

Lanius grimmi, Bogd. Sorokop. Russk. Faun. p. 151. pl. iv. (1881); Dresser, ix. p. 153, pl. 666; Gadow, Cat. B. Br. Mus. viii. p. 250.

Ad. (Atrek). Upper parts pale isabelline grey, the rump tinged with rufous; lores, forehead, and a narrow line over the eye white; a post-ocular patch including the ear-coverts dull black; wings and tail much as in *L. elegans,* but the black duller and tinged with brown; under parts white washed with rosy isabelline; bill light horn, darker along the culmen and at the tip; legs brownish; iris brown. Cul men 0·75, wing 4·45, tail 4·5, tarsus 1·2 inch.

Hab. Central Asia, from the Caspian east to Ordos and Alashan, not ranging as far south as India.

This, a desert form of *L. elegans*, does not differ from that species in general habits, but inhabits bush-covered, sandy, stony, and clayey deserts, feeding on insects and small birds and mammals, possibly also on lizards. It breeds from April to June placing its nest in bushes, constructing it of twigs, grass-bents, and lining it with wool. The eggs are greenish grey with light grey spots which are more numerous round the larger end.

347. FINSCH'S GREY SHRIKE.

LANIUS FALLAX.

Lanius fallax, Finsch, Trans. Zool. Soc. vii. p. 249, pl. xxv. (1872); Gadow, Cat. B. Br. Mus. viii. p. 247, pl. viii; Dresser, ix. p. 163; *L. uncinatus*, Sclater and Hartl., P.Z.S. 1881, p. 168.

Abou-seround, *Booras*, Arabic.

♂ *ad.* (Gennesareth). Differs from *L. elegans* in having the upper parts much darker grey; under parts white washed with grey, the white alar patch small, the inner webs of the secondaries chiefly blackish, the lesser wing-coverts black, slightly intermixed with grey; an indistinct white superciliary stripe; black frontal line very narrow or obsolete. Culmen 0·85, wing 4·25, tail 4·3, tarsus 1·25 inch.

Hab. Canary Islands, N. E. Africa, Palestine, Mesopotamia, Muscat, east to Afghanistan, Baluchistan, possibly to the Deccan.

In general habits it does not differ from *L. elegans*. It breeds in March or April, placing its nest on a bush. The nest is constructed chiefly of thorny twigs, grass-bents, and roots, well lined with wool and grass, and the eggs, from 4 to 5, are dull light stone-grey with purplish brown shell-markings and dull liver-brown or nut-brown surface-spots and blotches.

348. SOUTHERN GREY SHRIKE.

LANIUS MERIDIONALIS.

Lanius meridionalis, Temm., Man. d'Orn. i. p. 143, (1820); Gould, B. of E. ii. pl. 67; Dresser, iii. p. 387, pl. 147; Gadow, Cat. B. Br. Mus. viii. p. 246.

Alcandon real, Span.; *Picanso*, Portug.

♂ *ad.* (Spain). Upper parts very dark plumbeous; wings black; the inner primaries and secondaries tipped with white; inner webs of secondaries narrowly margined with white; middle tail-feathers black, the outer black at the base, otherwise white, the outermost almost entirely white; the white alar patch very small; a distinct white superciliary line; no frontal black band; under parts vinous pink; bill and legs black; iris brown. Culmen 0·75, wing 4·1, tail 4·5, tarsus 1·15 inch. Sexes alike. The young bird is much duller in colour, the throat and abdomen are dingy white, the rest of the under parts dull vinous.

Hab. Spain, Portugal, and the south of France.

Like its allies it frequents bush-covered plains and does not differ from them in its general habits. Its nest is placed on a bush or low tree, and resembles that of *L. excubitor.* The eggs usually 4 or 5 in number are deposited late in April or early in May and are greyish white thickly covered with purplish grey shell-markings and rich dark nut-brown surface-spots and blotches, measuring about 1·8 by 0·77. Compared with eggs of *L. excubitor* the markings are more profuse and more generally scattered over the surface of the egg.

349. ALGERIAN GREY SHRIKE.

LANIUS ALGERIENSIS.

Lanius algeriensis, Lesson. Rev. Zool. 1839, p. 134; Dresser, iii. p. 391, pl. 148; Gadow, Cat. B. Br. Mus. viii. p. 244.

Táïr-sidi-sliman, Arabic.

♂ *ad.* (Algeria). Resembles *L. meridionalis* differing in having the under parts dark grey, not vinous, and having no white superciliary stripe, but a narrow black frontal line. Culmen 0·85, wing 4·25, tail 4·7, tarsus 1·2 inch.

Hab. Morocco, Algeria, and Tunis, but not south of the Atlas range.

In habits it does not differ from its congeners. It breeds in April or May, placing its nest in a bush or low tree. The nest is constructed of twigs, and lined with wool, feathers, and rags. The eggs, usually 4 in number, are pale isabelline with ashy shell-markings and liver-brown surface-spots and blotches, and measure about 0·95 by 0·6.

350. LESSER GREY SHRIKE.

LANIUS MINOR.

Lanius minor, Gmel. Syst. Nat. i. p. 308 (1788) ; Naum. ii. p. 15, Taf. 50 ; Gould, B. of E. ii. pl. 68 ; id. B. of Gt. Brit. ii. pl. 14 ; Newton, i. p. 205 ; Dresser, iii. p. 393, pl. 149 ; Gadow, Cat. B. Br. Mus. viii. p. 235 ; Saunders, p. 149 ; Lilford, ii. p. 71. pl. 33.

Pie-grièche d'Italie, French ; *Averla cenerina*, Ital. ; *Grauer Würger*, German ; *Chernolobui Sorokoput*, Russ.

♂ *ad.* (Piedmont). Upper parts delicate blue-grey, paler on the rump and scapulars ; quills black, brownish towards the tips ; secondaries tipped with white ; wing-coverts black ; a conspicuous white speculum ; tail as in *L. elegans* ; forehead, feathers round the eye, and ear-coverts black ; cheeks, chin, throat, and under tail-coverts white ; rest of under parts rose-pink ; bill and legs black ; iris brown. Culmen 0·55, wing 4·6, tail 3·9, tarsus 1·0 inch. The female differs in having less black on the forepart of the head ; a narrow frontal white band crosses the forehead and it is otherwise varied by a few blackish feathers. The young bird has no trace of the black forehead, the upper parts are ashy grey with fine transverse brown bars, the under parts dull yellowish white.

Hab. Central and southern Europe, accidentally in Britain ; Asia Minor, Persia, Turkestan and Dzungaria, east as far as the basin of the Ili in Kuldja, and north to 56° or 57° N. Lat. in Western Siberia, wintering in Africa as far south as Damaraland and the Tati river.

Frequents bush-covered plains, gardens, and groves, but not forests, and does not affect the hills nor marshy localities. It is not shy, and may generally be seen perched in some exposed place. With other birds it is quarrelsome. Its flight is light and easy, its usual note a harsh *shek, shek,* its call-note *kioiä, kwiell* and *perletch* and it is a remarkably clever mimic. It feeds chiefly on insects and their larvæ, and also on fruit. It breeds in May, its nest resembling that of its allies and is placed on a high bush or a tree. The eggs from 5 to 7 in number are pale bluish green with purplish grey shell markings and brown surface-spots and blotches, in size averaging about 0·95 by 0·62.

351. Bay-Backed Shrike.

LANIUS VITTATUS.

Lanius vittatus, Valenciennes, Dict. Sc. Nat. xl. p. 227 (1826); Gadow, Cat. B. Br. Mus. viii. p. 280; Oates, F. Brit. Ind. Birds, i. p. 462; *L. hardwickii* (Vigors), P.Z.S. 1831, p. 42; (Gould), Cent. Himal. B. pl. 12, fig. 1.

Pachanak, Hindu; *Chota-kilotora*, Beng.

♂ *ad.* (India). Forehead extending to the forepart of the crown, and a broad band extending round the eye and over the ear-coverts deep black; crown behind the black band white, darkening into grey on the nape and hind neck; back and scapulars deep chestnut-maroon; rump white; upper tail-coverts grey; wings black externally margined with rufous buff; middle tail-feathers black, the rest white at base, otherwise black tipped with white, the outermost nearly all white; chin, throat, and under parts white, the breast and upper abdomen fulvous; the flanks dark rusty red; bill black, paler at the base of the mandible; legs blackish plumbeous; iris dark brown. Culmen 0·55, wing 3·4, tail 3·5, tarsus 0·85 inch. The female is paler and duller in colour and lacks the black frontal band.

Hab. Afghanistan, Baluchistan and the peninsular of India east to Bhutan; the Rajmehal hills and Midnapore to the east, and Mysore and the foot of the Nilgiris to the south.

Like its congeners it inhabits the bush-covered plains, low thorny jungle, groves, gardens, and hedgerows, and in general habits does not differ from them. In the Himalayas it ascends to an altitude of 4,000 to 5,000 feet. The breeding season extends from April to September, but the eggs are chiefly deposited in June and July, The nest is placed on a tree or in a bush or hedge and is compactly built of twigs, grass-stems, cobwebs, wool, rags, and feathers, and neatly lined with fine grass or roots. The eggs 4 to 6 in number are greenish grey, grey, or yellowish stone-colour, finely blotched or spotted with pale purplish shell-markings and yellowish brown or dull brown surface-blotches, averaging about 0·83 by 0·66.

352. Red-Backed Shrike.

LANIUS COLLURIO.

Lanius collurio, Linn. Syst. Nat. i. p. 136 (1766); Naum. ii. p. 30, Taf. 52; Hewitson, i. p. 70, pl. xx. figs. 3, 4; Gould, B. of E. ii. pl. 69; id. B. of Gt. Brit. ii. pl. 15; Newton, i. p. 209; Dresser, iii. p. 399, pl. 150; Gadow, Cat. B. Br. Mus. viii. p. 286; Saunders, p. 151; Lilford, ii. p. 74, pl. 34.

Pie-grièche écorcheur, French; *Desollador, Verdugo*, Span.; *Averla-piccola*, Ital.; *Rothrückiger Würger*, German; *Graauwe Klaauwier*, Dutch; *Brunryggad Tornskata*, Swed.; *Almindelig Tornskade*, Dan.; *Pienempi-Lepinkainen*, Finn.; *Sorokoput-julan*, Russ.

♂ *ad.* (England). Crown, nape, and upper tail-coverts blue-grey; mantle brownish chestnut-red; wings blackish brown narrowly margined externally with rufous; wing-coverts black with broad rufous margins; middle tail-feathers black, the rest white at the base, then black with narrow white tips; frontal line, lores, and ear-coverts deep black; chin, lower abdomen, under wing- and tail-coverts white; rest of under parts rose-coloured; bill and legs black; iris brown. Culmen 0·6, wing 3·7, tail 3·2, tarsus 0·95 inch. The female is brownish grey above, faintly barred, the tail russet-brown tipped with white; the under parts dull white with spade-shaped brown vermiculations; old females, however, assume a plumage nearly approaching that of the male. The young bird has the upper parts reddish brown, the under parts pale fulvous, both above and below barred with blackish and brown vermiculations; bill and legs dull plumbeous; iris light brown.

Hab. Northern Europe; in Sweden as far north as Umeå; Central Europe, not common in the south-west; Asia as far east as the Altai range, wintering in Africa, not on the west coast, as far south as the Cape Colony.

Inhabits plains, fields, gardens, and hedgerows, and feeds on insects, especially grasshoppers, mice, and even small birds, and impales its prey on thorns like its allies. Its usual note is a harsh *shek, shek,* and the male utters a sort of song. It breeds in May or June, building a somewhat large nest of twigs, roots, and grass-bents, well lined with wool, moss, and horsehair, and usually places it in a bush or high hedge. The eggs 4 to 6 in number vary from light greenish grey with light violet shell-markings and brown surface-spots, to pale salmon-colour with violet shell-, and reddish surface-blotches, and average about 1·0 by 0·7.

353. ISABELLINE SHRIKE.

LANIUS ISABELLINUS.

Lanius isabellinus, Ehrenb. Symb. Phys. i. fol. e, footnote, (1828); Dresser, iii. p. 413 (partim); Gadow, Cat. B. Br. Mus. viii. p. 277; Oates, F. Brit. Ind. Birds, i. p. 467; Gätke, Vogelw. Helgol. p. 227; *L. arenarius*, Blyth, J.A.S. Beng. xv. p. 304 (1846); Hume and Henders. Lah. to Yark. p. 183, pl. iii.

Bulanui-Sorokoput, Russian.

♂ *ad.* (Turkestan). Upper parts rufescent ashy brown ; forehead pale rufous ; lower rump and upper tail-coverts bright rufous ; wings brown with fulvous margins ; a very small white spot at the base of the primaries ; tail dull rufous ; lores, supercilium, and a narrow band across the forehead at the base of the bill fulvous white ; a spot in front of the eye and ear-coverts black ; under parts pale fulvous, washed with rosy buff on the flanks ; bill dark brown above, horn-flesh below, but brown at the tip ; legs slaty black ; iris dark brown. Culmen 0·68, wing 3·6, tail 3·5, tarsus 0·95 inch. The female has the ear-coverts brown and the loral and superciliary stripe nearly obsolete. The young bird is pale fulvous narrowly barred with blackish above, and with wavy cross bars below.

Hab. Turkestan and Afghanistan east to the Lob-nor; wintering in N.W. India, Persia, Arabia, Abyssinia, and the Blue Nile. Has once occurred on Heligoland.

Inhabits bush-covered localities, chiefly sandy and stony desert places, and in general habits does not differ from its allies. Like them, it builds a somewhat bulky nest of grass-bents and twigs lined with fine grass and plant-cotton, and generally places it on a bush. The eggs 4 or 5 in number are dull creamy white marked with pale greyish underlying, and dull pale brownish overlying surface-spots and blotches, which are usually collected in a wreath round the larger end, in size averaging about 0·85 by 0·7.

354. SUBSP. LANIUS SPECULIGER.

Lanius speculigerus, Tacz. J.f.O. 1874, p. 322 ; id. F. O. Sib. O. p. 504 ; Gadow, Cat. B. Br. Mus. viii. p. 279 ; *Otomela isabellina* var. *orientalis*, Bogd. Sorokop. Russk. Faun. p. 38 (1881).

Differs from *L. isabellinus*, of which it is but an eastern race in having a large white alar speculum, and in having the whole of the lores deep black ; the quills also are of a darker brown. Culmen 0·7, wing 3·72, tail 3·35, tarsus 0·95 inch.

Hab. Southern Dauria, the Gobi desert, and probably eastern Mongolia.

Differs so little from *L. isabellinus* that I am very doubtful if it should be treated as distinct. I have seen a specimen from Turkestan, that agrees pretty closely with others from Dauria, and also a similar example from Central Africa.

355. Severtzoff's Rufous Shrike.

LANIUS PHŒNICUROIDES.

Lanius phœnicuroides, Severtz. J.f.O. 1873, p. 347 ; Bogdanoff, Sorokop. Russk. Faun. p. 14, pl. i. figs, 2, 3 ; Gadow, Cat. B. Br. Mus. viii. p. 278 ; *L. isabellinus*, Dresser, iii. p. 413 (partim) pl. 152.

Djungarski Sorokoput, Russian.

♂ *ad.* (Turkestan). Differs from *L. isabellinus* in having the back ashy brown and the crown much more rufous ; the superciliary stripe larger, pure white, and extended in a narrow line across the base of the upper mandible ; the lores and patch through the eye and covering the ear-coverts deep black ; and the alar speculum larger and more distinct. Culmen 0·65, wing 3·65, tail 3·2, tarsus 0·95 inch.

Hab. Transcaspia and Turkestan, wintering in Persia, Arabia, and Abyssinia, and has been met with in Sind.

In habits it does not differ from *L. isabellinus*, but appears to be less often met with in the true desert. Some specimens are much greyer than others and Bogdanoff even subdivided it (*l.c.*) into two subspecies, naming the more rufous bird *Otomela phœnicuroides* subsp. *romanowi* and the greyer variety *O. phœnicuroides* subsp. *karelini.*

It breeds in Transcaspia and Turkestan in May, placing its nest on a bush or low tree. The nest is neatly constructed of grass-bents, plant-stems, and fine roots lined with fine bents and rootlets, and the eggs 4 to 6 in number are pale salmon-colour marked with pale rufous grey and rufous spots collected chiefly round the larger end, in size averaging about 0·9 by 0·65.

356. Brown Red-tailed Shrike.

LANIUS CRISTATUS.

Lanius cristatus, Linn. Syst. Nat. i. p. 134 (1766) ; Bogd. Sorokop. Russk. Faun. p. 3, pl. 1. fig. 1 ; Gadow, Cat. B. Br. Mus. viii. p. 271 ; Oates, F. Brit. Ind. Birds. i. p. 468 ; *L. phœnicurus*, Pall. Zoogr. Ross. As. i. p. 405 (1811) ; Tacz. F. O. Sib. O. p. 498.

Daurski Sorokoput, Russ. ; *Kákháti* Beng. ; *Kher-Khetta*, Hindu ; *Batti-gadu*, Tel. *Hnet-beloo*, Burm.

♂ *ad.* (Dauria). Upper parts reddish brown, more rufous on the crown ; wings dark brown margined with rufous, the lesser wing-coverts like the back ; no white alar speculum ; tail reddish brown, paler at the tip ; lores and a patch passing through the eye and extending over the ear-coverts black ; forehead, supercilium, cheeks, chin, and throat white ; rest of the under parts rufous buff ; bill pale plumbeous, the upper mandible from the nostril, and the tip of the lower mandible dark horn ; legs bluish brown ; iris dark brown ; eyelids plumbeous. Culmen 0·7, wing 3·5, tail 3·6, tarsus 1·0 inch. The female has the supercilium creamy white, the under parts isabelline, the flanks rufous buff, these and the breast faintly vermiculated, and the young have the upper parts distinctly barred and the under parts vermiculated with dark brown.

Hab. Asia, from the Yenesei to Kamchatka and Dauria, and from Yarkand to the east coast of China ; wintering in India, Ceylon, the Andamans, Burma, the Malay peninsula, and as far south as Java.

Frequents bush-covered plains especially near water, and is also found in the vast marshes where the rivers empty themselves into Lake Baikal, but not in the forests. Its call-note resembles the syllable *keh*, frequently repeated. Its nest resembles that of *L. collurio*, and is placed on a bush or low tree never at any great height above the ground. Its eggs, 4 to 6 in number, resemble rufous eggs of *L. collurio*, but are, if anything, rather smaller, averaging about 0·82 by 0·62. The eggs are deposited late in May or in June.

361. JAPANESE RED-TAILED SHRIKE.

LANIUS SUPERCILIOSUS.

Lanius superciliosus, Latham, Ind. Orn. Suppl. p. 20, No. 14 (1801) ; Bogdanoff, Sorokop. Russk. Faun. p. 51 ; Gadow, Cat. B. Br. Mus. viii. p. 273 ; Tacz. F. O. Sib. O. p. 496 ; Seebohm, B. Jap. Emp. p. 105.

Akamozu, Jap.

♂ *ad.* (Japan). Differs from *L. cristatus* in having the upper parts much brighter, usually rich fox-red, the forehead and fore-crown and a broad supercilium pure white ; wings blackish externally margined with rufous ; tail fox-red tipped with dull white. Culmen 0·7, wing 3·5, tail 3·72, tarsus 0·84 inch.

Hab. The island of Saghalien, Askold, and Japan ; wintering in the Malay peninsula, Philippines, and Java.

In general habits it does not differ from *L. cristatus*, of which it is an eastern form. It breeds in Japan, placing its nest in thorny bushes at from 4 to 10 feet from the ground. The eggs, which are deposited from the middle of June to the early part of July, 4 to 6 in number, resemble rufous eggs of *Lanius auriculatus*.

362. PHILIPPINE RED-TAILED SHRIKE.

LANIUS LUCIONENSIS.

Lanius lucionensis, Linn. Syst. Nat. i. p. 135 (1766); Walden, Trans. Zool. Soc. ix. p. 171, pl. xxix, fig. 1; Oates, Faun. Brit. Ind. Birds, i. p. 469; Gadow, Cat. B. Br. Mus. viii. p. 274; Tacz. F. O. Sib. O. p. 502.

♂ *ad.* (China). Forehead and supercilium white, the former merging into blue-grey on the fore-part of the crown, and then to brownish grey on the hind-crown; upper parts greyish brown, tinged with rufous on the rump; no wing speculum; otherwise like *L. cristatus*, but the under parts below the throat are warm orange-buff. Culmen 0·65, wing 3·6, tail 3·5, tarsus 0·95 inch. The female has the under parts paler, the lores and ear-coverts brownish black, and the white and grey on the forehead less pronounced. The young bird resembles *L. cristatus*, but is rather greyer in tinge.

Hab. The Ussuri country in E. Siberia, Askold, China, Corea, and Manchuria; wintering in the Andamans, Nicobars, South Tenasserim, the Malay peninsula, Borneo, and the Philippines.

In habits it does not differ from its allies, and I do not find any description of its nest and eggs on record. It is distinguishable from *L. cristatus* by its blue-grey forehead, orange-buff abdomen, and by the upper parts being greyer.

363. BULL-HEADED SHRIKE.

LANIUS BUCEPHALUS.

Lanius bucephalus, Temm. and Schlegel, Faun. Jap. p. 39, pl. 14 (1850); Bogdanoff, Sorokop. Russk. Faun. p. 86; Gadow, Cat. B. Br. Mus. viii. p. 270; Tacz. F. O. Sib. O. p. 491; ? *L. brachyurus*, Pall. Zoog. R. As. i. p. 405 (1811).

Mozu, Jap.

♂ *ad.* (Japan). Head as in *L. cristatus*, but the white supercilium narrower; upper parts and tail slate-grey, the latter with the central feather blackish towards the end, and all with narrow pale tips; quills blackish with dull white margins to the secondaries; a small white speculum; chin, throat, and abdomen white; flanks warm rufous; bill bluish black, paler at the base; legs blackish brown; iris brown. Culmen 0·68, wing 3·4, tail 3·6, tarsus 1·01 inch. The female is much more rufous, the back is reddish brown, the wings brown margined with rufous, the lores and ear-coverts reddish brown, and the under parts dull white with dark vermiculations. The young resemble the female, but have the upper parts browner and the under parts more boldly and closely vermiculated.

Hab. Japan, north-east China, and is said to have occurred in Dauria; winters in Southern China.

In habits it does not seem to differ from its allies. It breeds in Japan, and places its nest generally in thorny thickets about 4 feet from the ground. The nest is constructed of twigs and grasses, and lined with finer grass, and the eggs, 4 to 6 in number, are deposited from the end of March to the early part of July, and resemble the blue-green varieties of the eggs of *L. auriculatus.*

364. THICK-BILLED SHRIKE.

LANIUS TIGRINUS.

Lanius tigrinus, Drapiez, Dict. Class. Hist. Nat. xiii. p. 523 (1828); Gadow, Cat. B. Br. Mus. viii. p. 289; Tacz. F. O. Sib. O. p. 494; Oates, F. Brit. Ind. Birds, i. p. 470; *L. magnirostris*, Less. in Belanger's Voy. Ind. Orient. p. 251 (1834); Walden, Ibis, 1867, p. 220, pl. vi.; David and Oust. Ois. Chine, p. 97.

♂ *ad.* (Malacca). Crown, nape, and hind neck blue-grey; upper parts and tail bright fox-red broadly barred with black; quills dark brown externally margined with fox-red; wing-coverts like the back; forehead, lores, and a patch extending over the ear-coverts deep black; under parts white, the flanks ashy grey slightly barred on the lower part; bill plumbeous; legs plumbeous blue; iris brown, edge of eyelid black. Culmen 0·68, wing 3·4, tail 2·95, tarsus 0·92 inch. The female is duller and browner, and the young bird has the upper parts and head reddish brown boldly barred with black and the under parts dull isabelline barred with dark brown; no black patch on the side of the head, that part being fulvous, speckled and mottled with brown.

Hab. E. Siberia and China; wintering in S. Tenasserim, Siam, the Malay peninsula, and Sumatra.

Frequents bush-covered, thinly-wooded localities and pine woods, and feeds on insects, chiefly coleoptera and orthoptera. It breeds in Eastern Siberia and Northern China; its nest, which is neatly constructed of plant-stems and grass-bents, lined with finer grasses, is placed in the fork of a bush, from 2 to 4 feet above the ground. The eggs, 4 to 5 in number, resemble the reddish varieties of the eggs of *L. collurio,* in size averaging about 0·88 by 0·64.

365. RADDE'S GREY SHRIKE.

LANIUS RADDII.

Lanius raddii, Dresser, P.Z.S. 1888, p. 291, pl. v.; id. Birds of E. ix. p. 171, pl. 669.

♂ *ad.* (Transcaspia). Upper parts blue- or french-grey, paler on the crown and forehead, the lower part of the mantle brownish buff; wings dull blackish, the secondaries narrowly margined with dull white; white alar patch very small; central tail-feathers black, the outermost white with a black median line broader towards the tip, the rest with more black towards the tip; forehead and a line over the eye white; a narrow frontal line, lores, and a band passing through the eye and including the ear-coverts black; chin, throat, and under parts white, the flanks washed with pale warm buff; bill and legs black; iris brown. Culmen 0·6, wing 3·55, tail 3·2, tarsus 0·9 inch.

Hab. Transcaspia and Turkestan.

A very little known species, and nothing is on record respecting its habits or nidification.

366. SUBSP. LANIUS DICHROURUS.

Lanius dichrourus, Menzbier, Ibis, 1894, p. 382.

Ad. Differs from *L. raddii* in having the upper parts dark smoke-grey tinged with brownish on the back, the tail with more black, the outer feather with the terminal third black margined with white, the throat only white; rest of the under parts pale buff-pink, the flanks vinaceous cinnamon, and the under wing-coverts brown, the lesser ones margined with white; bill horn-brown, the base of the mandible paler; legs dark brown; iris brown. Culmen, 0·75, wing 3·75, tail 3·4, tarsus 0·9 inch.

Hab. Kenderlik river near the Lake Nov-Zaïssan.

Nothing is on record respecting the habits of this Shrike. The present group of Shrikes, having an extensive and uninterrupted range is, like other similar groups, subject to considerable local variation, these varieties or forms intergrading into each other in localities where they meet. Several of these forms have been described by Russian authors, but I have been unable to examine a series or even individual specimens of most of them, and am therefore unable to give an opinion on them, but may say that *Lanius eleagni* Suschkin is stated to somewhat resemble *L. collurio,* as well as the Red-tailed Shrikes, and that *L. infuscatus* Suschkin differs but little from it. *L. bogdanovi* is said to differ from *L. raddii* in being much smaller, with a shorter tail, and the upper parts, especially the head, are less grey. Should I, before completing the present work, be able to examine specimens of these Shrikes, I shall be able to add a few remarks by way of appendix.

367. GREY-BACKED SHRIKE.

LANIUS TEPHRONOTUS.

Lanius tephronotus (Vigors), P.Z.S. 1831, p. 43; Gadow, Cat. B. Br. Mus. viii. p. 260; Oates, F. Brit. Ind. Birds, i. p. 465.

Bhadraya, Bagaha-teutha, Nep.; *Sakrik-pho*, Lepch.; *Totem*, Bhut.

♂ *ad.* (India). Upper parts with crown, nape, and lesser wing-coverts dark slaty grey; rump and upper tail-coverts rufous orange; wings black narrowly margined with pale rufous; tail greyish brown, the middle feathers nearly black, all with paler tips; forehead, a broad band through the eye and ear-coverts deep black; chin, throat, and abdomen white; flanks and sides of the breast ferruginous; bill black, yellowish horn at base of lower mandible; legs black; iris dark brown. Culmen 0·7, wing 4·0, tail 4·85, tarsus 1·0 inch. Sexes alike. The young bird is duller, lacks the black frontal band; ear-coverts dark brown; under parts dull white, these and upper tail-coverts barred with brown.

Hab. Himalayas from Kashmir east to the Njan-schan mountains, Kan-su and Western China; wintering in Nepal, Burma, and the plains of Bengal and Assam.

Frequents gardens, groves, and cultivated ground, and is seldom seen in such open country as its congeners, perches on hedges, bushes, and small bare trees, has a harsh chattering note and appears to be most noisy towards sunset. It breeds in the Himalayas at altitudes of from 5,000 to 8,000 feet, and in the Njan-schan mountains, but there does not appear to be any reliable information as to its nest and eggs.

368. RUFOUS-BACKED SHRIKE.

LANIUS ERYTHRONOTUS.

Lanius erythronotus (Vigors), P.Z.S. 1831, p. 42; (Gould) Cent. Himal. B. pl. 12, fig. 2; Bogd. Sorokop. Russk. Faun. p. 79; Gadow, Cat. B. Br. Mus. viii. p. 263; Oates, F. Brit. Ind. Birds, i. p. 464; *L. caniceps*, Blyth, J.A.S. Beng. xv. p. 302 (1836); Gadow, tom. cit. p. 265.

Indiski Sorokoput, Russ.; *Mattiya latora, Kajala latora*, Hind.; *Yerra belinchi*, Tel.

♂ *ad.* (India). Crown, nape, and upper back pale grey ; rest of upper parts ferruginous ; wings blackish, externally margined with pale rufous ; larger wing-coverts similarly tipped ; external tail-feathers brown, the rest black, all with rufous tips ; forehead and a broad band through the eye to the ear-coverts black ; chin, throat, and upper breast white, rest of under parts rufous becoming whitish on the middle of the abdomen ; bill and legs blackish ; iris brown. Culmen 0·75, wing 3·7, tail 4·7, tarsus 1·05 inch. The young bird is duller, has the ear-coverts brownish, the forehead and lores fulvous, the cheeks and throat white, the rest of the under parts pale fulvous irregularly barred with brown.

Hab. Transcaspia, Afghanistan, Turkestan, and the whole of India from Kashmir to Cape Comorin, and Sind to Bengal ; also Ceylon.

In habits it does not differ from its allies, is a bold and fearless bird, and spends most of the day on a favourite perch on the look-out for its prey. Its usual note is loud and harsh, and in the spring it utters the merest semblance of a song. It frequents jungly localities, hedgerows and bushes in cultivated places near jungle. It nests in Turkestan and throughout India from March to September. Its nest is placed on a bush or low tree, and is neatly constructed of plant-stems, fine twigs and roots, wool, old rags, and hair, and lined with fine grass. The eggs, from 4 to 5 in number, are creamy white or reddish white with grey shell-markings and reddish surface-spots which are generally collected round the larger end, in size averaging about 0·92 by 0·71. They most nearly resemble eggs of *L. collurio*, but are not so boldly marked.

369. WOODCHAT SHRIKE.

LANIUS AURICULATUS.

Lanius auriculatus, Müll. Natursyst. Suppl. p. 71 (1776) ; Dresser iii. p. 407, pl. 151 ; Newton, i. p. 215 ; Gadow, Cat. B. Br. Mus. viii. p. 283 ; *L. pomeranus*, Sparrm. Mus. Carls. pl. i. (1786) ; Saunders, p. 153 ; *L. rufus*, Gmel. Syst. Nat. i. p. 302 (1788) ; Naum. ii. p. 22, pl. 51, figs. 1, 2 ; Gould, B. of E. ii. pl. 70 ; id. B. of Gt. Brit. ii. pl. 16 ; Hewitson, i. p. 72, pl. 20, fig. 2 ; *L. rutilus*, Lath. Lilford, ii. p. 75, pl. 35.

Pie-grièche rousse, French ; *Picanso*, Portug. ; *Alcaudon real*, Span. ; *Averla capirossa*, Ital. ; *Rothköpfiger Würger*, Germ. ; *Roodkoppige Klaauwier*, Dutch ; *Rhovedet Tornskade*, Dan. ; *Krasnogolovi Sorokoput*, Russ.

♂ *ad.* (Spain). Forehead, fore-crown and a patch through the eye continued down the side of the neck deep black ; a spot on the lores white ; rest of crown and nape chestnut-red ; fore part of back, wings, and tail black ; an alar patch and tips of secondaries and all but the middle tail-feathers white ; base of tail-feathers also white ; lower back grey ; rump, upper tail-coverts, and scapulars white ; chin, throat, and under parts white with a slight fulvous tinge ; bill, feet, and iris brown. Culmen 0·65, wing 3·9, tail 3·35, tarsus 0·9 inch. The female differs in being much duller in colour. The young bird has the upper parts brown, more rufous on the crown and back, and barred with ochre and black, the wings and tail brownish black, the chin white, the rest of the under parts fulvous, barred with narrow brown vermiculations.

Hab. Central and Southern Europe, of accidental occurrence as far north as Denmark and England, ranging east to Persia ; wintering in Africa as far south as Nubia and the Gold Coast. Of doubtful occurrence in Sind.

Like its allies it frequents the open country and fields where bushes and trees abound, and is not so often seen perched in exposed places, but keeps more to the foliage. It feeds chiefly on insects, and but seldom on weakly young birds. Its usual note is *krähts, krähts,* and its alarm-note *grack, kjäck, kack,* and it is an excellent mimic. Its nest is a neat but slight structure composed of plant-stems, frequently of a sweet-smelling species, and is placed on a bush or in the fork of a tree, usually at no great altitude. The eggs, from 4 to 6 in number, are usually deposited in May, and closely resemble those of *Lanius collurio,* but the red variety is comparatively rare.

370. MASKED SHRIKE.

LANIUS NUBICUS.

Lanius nubicus, Licht. Verz. Doubl. p. 47 (1823) ; Dresser, iii. p. 417, pl. 153 ; Gadow, Cat. B. Br. Mus. viii. p. 282 ; *L. personatus*, Temm. Pl. Col. pl. 246, fig. 2 (1824).

♂ *ad.* (Asia Minor). Crown, lores, ear-coverts, hind neck, upper parts, wings, and central tail-feathers deep black ; scapulars, wing-speculum, and a broad band across the forehead with the supercilium pure white ; secondaries narrowly margined and tipped with white ; the outer tail-feathers white, the next white with blackish internal margin, the third with external web and end white ; chin, throat, and under tail-coverts white, the flanks rich ferruginous, and the upper breast washed with ferruginous ; bill and feet black ; iris brown. Culmen 0·6 wing, 3·5, tail 3·3, tarsus 0·85 inch. The female is duller and has the upper parts greyish brown. The young resemble those of *L. auriculatus*, but are smaller, and have the upper parts rather browner.

Hab. South-eastern Europe, Asia Minor, and Palestine ; wintering in Northern Africa as far south as Abyssinia and Senegambia.

Frequents bush-covered plains, vineyards, and graveyards planted with tall cypresses, and is somewhat shy and retiring in its general habits. It feeds entirely on insects, chiefly coleoptera, and is said to utter a melodious but somewhat monotonous song, not unlike that of *Hypolais olivetorum.* It breeds in May and June, placing its nest in a tree in the centre of upright half dry boughs in such a manner that it is covered from above by a branch or pendant leaves, or else in the summit of a tree. The nest is compactly and closely constructed of fine roots and grass-bents, interwoven with threads, rags, etc., and lined with finer rootlets. The eggs, 6 or 7 in number, are dull greenish buff spotted with dull brown or umber-brown, the markings frequently collected so as to form a wreath round the larger end. In size they average about 0·9 by 0·63.

TELEPHONUS, Swains., 1831.

371. Hooded Shrike.

TELEPHONUS CUCULLATUS.

Telephonus cucullatus (Temm.), Man. d'Orn. iv. p. 600 (1840); Gadow, Cat. B. Br. Mus. viii. p. 126; *L. tchagra*, Schlegel, Rev. Crit. p. xxi. (1844); *L. erythropterus* (nec. [Shaw), Dresser, iii. p. 423, pl. 154.

Abermat, Moorish.

♂ *ad.* (Morocco). Crown, nape, and a stripe from base of the bill through the eye beyond the ear-coverts glossy black; a broad superciliary stripe white, tinged with ochreous isabelline; sides of the face and upper parts greyish ashy brown, greyer on the rump; wings and tail black, the former with broad chestnut-red external margins; tail graduated, the central rectrices brownish black, obsoletely barred; all the feathers broadly tipped with white; upper throat and middle of abdomen whitish; rest of under parts dark ashy grey; bill black; legs plumbeous; iris brown. Culmen 1·0, wing 3·55, tail 4·9, tarsus 1·3 inch. Sexes alike. The young bird has the crown mixed with brown and the black streak through the eye is less distinct.

Hab. Algeria and Morocco, and is said to have occurred in Spain.

Frequents bushy localities, and forests near the coast, and unlike the true Shrikes when pursued it runs from bush to bush, hides in the dense thickets, and does not take flight. It feeds on insects of various kinds and their larvæ, which it usually obtains on the ground. Its call-note is harsh, resembling the syllables *tschagra, tschagra, chugra, chrug,* and its song or whistle is an oft-repeated sweet prolonged note, very unlike the note of a *Lanius.* Its nest is placed on a bush or low tree, is bulky, constructed of twigs and roots, lined with wool, hair, or feathers, and the eggs, 4 to 6 in number, are deposited in April or May, and are white spotted and splashed with pale purplish red shell- and red surface-markings, which are chiefly collected at the larger end; in size they average about 0·98 by 0·75.

AMPELIS, Linn., 1766.

372. WAXWING.

AMPELIS GARRULUS.

Ampelis garrulus, Linn. Syst. Nat. i. p. 297 (1766); Naum. ii. p. 143, pl. 59; (Gould), B. of E. ii. pl. 160; id. B. of Gt. Brit. ii. pl. 21; Newton, i. p. 523; Dresser, iii. p. 429, pl. 155; Newton, Ibis, 1861, p. 92, pl. iv. (eggs); Sharpe, Cat. B. Br. Mus. x. p. 212; Saunders, p. 155; Lilford, ii. p. 91, pl. 42; Ridgway, p. 464.

Jaseur de Bohême, French; *Beccofrusone,* Ital.; *Pestvogel,* Dutch; *Siedenschwanz,* Germ.; *Sidensvands,* Dan. and Norweg.; *Sidensvans,* Swed.; *Tilhi, Korva-rastas,* Finn.; *Pallje-rastis,* Lapp.; *Sviristiel,* Russ.; *Ki-ren-jaku,* Jap.

♂ *ad.* (Finland). Upper parts greyish brown, greyer on the rump; under parts greyish drab; crown with a long crest; forehead, sides of crest, and under tail-coverts chestnut-red; lores, a streak through the eye, and throat deep black; quills blackish, yellow near the end of the outer web, and edged with white at the tip; secondaries deep grey, white at the end, the shaft with a red, wax-like tip; tail grey at base, then black broadly tipped with bright yellow; bill blackish horn, paler at the base; legs black; iris rich reddish brown. Culmen 0·65, wing 4·55, tail 2·8, tarsus 0·8 inch. Sexes alike. The young bird has the upper parts paler brown slightly streaked, the throat and under parts greyish buff streaked with yellowish buff, the white on the secondaries absent.

Hab. During the summer the arctic portions of the Old and New Worlds, migrating south in winter, its migrations being very irregular.

In its habits it is very tame and confiding, though less so in the summer than in the winter. When perching it sits very erect, its crest being clearly visible, and when disturbed it at once raises and spreads it. It is as a rule a very silent bird, and the only note I ever heard it utter was a low plaintive whistle. It feeds on insects of various kinds, and in the winter on berries, especially those of the juniper and mountain-ash. It breeds within the Arctic Circle, the nest being placed in a birch or fir-tree, usually 10 to 12 feet from the ground. It is constructed of twigs, moss, and lichen, lined with fine lichen. The eggs, which are usually deposited in June, are pale blue with pale purplish shell-markings and black surface-spots, but occasionally the ground colour is warm pinkish. In size they average about 0·96 by 0·69.

373. JAPANESE WAXWING.

AMPELIS JAPONICA.

Ampelis japonica (Siebold), Hist. Nat. Jap. St. No. 2 (1824); Sharpe, Cat. B. Br. Mus. x. p. 217; *A. phœnicoptera* (Temm.), Pl. Col. ii. pl. 450 (1828); (id. et Schlegel), Faun. Jap. Aves, pl. xliv.; (Radde), Reis. Sib. Vög. p. 201, Taf. 6, fig. 1; Tacz. F. O. Sib. O. p. 454.

Hi-ren-jaku, Jap.

♂ *ad.* (Japan). Differs from *A. garrulus* in having the secondaries and the tail tipped with crimson, and lacking all yellow on the tail and wings, the under tail-coverts fawn-coloured at the base, otherwise crimson, and the wing-coverts tipped with crimson; bill and legs black; iris blood-red. Culmen 0·52, wing 0·4, tail 2·1, tarsus 0·7 inch. Sexes alike.

Hab. Eastern Siberia, chiefly the Ussuri country; wintering in Japan and Northern China.

In its general habits it does not appear to differ from *A. garrulus*, but it is said to be much shyer and its call-note is not so loud. It breeds in Eastern Siberia, but its nest and eggs are as yet unknown.

HYPOCOLIUS, Bp., 1850.

374. GREY HYPOCOLIUS.

HYPOCOLIUS AMPELINUS.

Hypocolius ampelinus, Bp. Consp. Gen. Av. i. p. 336 (1850); Henglin, Ibis, 1868, p. 181, pl. v.; Sharpe, Cat. B. Br. Mus. iii. p. 316; Oates, F. Brit. Ind. Birds, i. p. 250; *Ceblepyris isabellina*, Hengl. Sitzungsber. K.K. Akad. Wien. xix. p. 284 (1856).

♂ *ad.* Crown dull isabelline grey ; a narrow line at base of bill, lores, space round the eye, ear-coverts, and a broad band across the nape and hind-neck deep black ; upper parts, wing-coverts, and outer webs of secondaries pale blue-grey washed with isabelline ; quills deep black with a broad white terminal band, the secondaries marked with black on the inner web ; tail like the back but broadly terminated with deep black ; under parts greyish isabelline, rather greyer on the breast ; bill black ; legs yellowish ; iris brown. Culmen 0·6, wing 3·9, tail 4·5, tarsus 0·9 inch. Female rather smaller, more isabelline in tinge, lacking the black on the head, and has the primaries isabelline tinged with grey and tipped with black, the innermost with a narrow apical white margin.

Hab. Persia and the shores of the Persian Gulf; wintering in N.E. Africa ; has occurred in Sind and Khelat.

Respecting its habits I find scarcely anything on record, except that it frequents desert or semi-desert localities and is usually seen amongst the palm-trees. It breeds in June and July, building a substantial cup-shaped nest, lined with fine grass, plant cotton, wool, and sometimes hair, which it usually places on the leaf of a date-palm at from 3 to 10 feet above the ground. The eggs, from 4 to 6 in number, are glossy leaden white, rarely with a greenish tinge, with lead-coloured blotches and spots, which are sometimes spread over the entire egg, and sometimes form a ring round the larger end. In size they average about 0·85 by 0·63.

HEMICHELIDON, Hodgson, 1845.

375. SIBERIAN FLYCATCHER.

HEMICHELIDON SIBIRICA.

Hemichelidon sibirica (Gmel.), Syst. Nat. i. p. 936 (1780) ; Oates, Faun. Brit. Ind. Birds, ii. p. 5 ; Sharpe, Cat. B. Br. Mus. iv. p. 120 ; Tacz. F. O. Sib. O. p. 475 ; *H. fuliginosa*, Hodgs. P.Z.S. 1845, p. 32 ; Jerdon, B. of Ind. i. p. 458.

Dang-chim-pa-pho, Lepch.

♂ *ad.* (India). Upper parts with the wings and tail dark brown, secondaries and wing-coverts with pale margins ; a white ring round the eye ; lores mixed white and brown ; middle of throat and abdomen white, the rest of the under parts smoky brown striped with dull greyish white ; bill dark brown, yellowish below ; legs brownish black ; iris brown. Culmen 0·45, wing 3·1, tail 2·15, tarsus 0·5 inch. Sexes alike. The young have the upper parts streaked and spotted, the lesser wing-coverts tipped, and the larger coverts and quills margined with fulvous, and the under parts are paler than in the adult. Compared with *M. grisola* this species is much smaller and darker and the bill is shorter and wider.

Hab. Eastern Siberia from Kamchatka to Dauria, Mongolia, and China; the higher ranges of the Himalayas from Afghanistan and Kashmir to Sikkim; wintering at the foot of the Himalayas, in Burma, and the Malay peninsula.

In its general habits it much resembles *M. grisola*, frequenting groves and the forest where conifers and deciduous trees are intermingled. Its song is melodious and prolonged, and is uttered from the top of a tree. It breeds in June in Siberia, and in the Himalayas to an altitude of 13,000 feet, and places its nest on the small branches or near the trunk of a tree at an altitude of from 5 to 20 feet. The nest is bulky for the size of the bird, constructed of grass, rootlets, plant-stems, and moss, lined with fine moss and roots. The eggs, from 3 to 5 in number, resemble those of *M. grisola*, but the markings are smaller and they are smaller in size, measuring about 0·65 by 0·47.

ALSEONAX, Cabanis, 1850.

376. Brown Flycatcher.

ALSEONAX LATIROSTRIS.

Alseonax latirostris (Raffles), Trans. Linn. Soc. xiii. p. 312; Sharpe, Cat. B. Br. Mus. iv. p. 127; Oates, F. Brit. Ind. Birds, ii. p. 35; (Tacz.) F. O. Sib. O. p. 467; Hume and Henders. Lah. to Yark. p. 185, pl. v.; *Muscicapa cinereo-alba*, Temm. and Schlegel, Faun. Jap. Aves, p. 42, pl. 15.

Kosamebitaki, Jap.; *Zakki*, Hindu.

♂ *ad.* (India). Upper parts dull ashy brown, the feathers on the crown with somewhat darker centres; wings and tail dark brown, the secondaries and coverts with ashy white margins; outer tail-feathers with narrow whitish tips; a white ring round the eye; lores whitish; under parts white, washed with pale brownish ash on the breast and flanks; bill short and broad, black, the base of the lower mandible yellow; legs black; iris brown. Culmen 0·45, wing 2·8, tail 1·95, tarsus 0·5 inch. Sexes alike. The young have the upper parts spotted with fulvous, the crown blackish, streaked with fulvous, and the under parts mottled with brown. It can easily be distinguished from *M. grisola*, for besides being less streaked and spotted, and having a very short broad bill, it has the second quill shorter than the fifth, whereas in *M. grisola* it is longer.

Hab. Eastern Siberia, Japan, Corea, China, the Himalayas; wintering throughout India, in Burma, the Malay peninsula, Java, Sumatra, Borneo, and the Philippines, and is said to breed even in Ceylon.

In general habits and in its food it resembles *M. grisola*, and frequents groves and woods, chiefly those of non-evergreen trees. Its song is agreeable and melodious, and is usually uttered from an exposed position. Its nest is constructed of fine grass-bents or plant-stems, moss, and externally garnished with lichens and small pieces of bark, and carefully lined and neatly constructed, being easily distinguishable from that of *H. sibirica*. It is usually placed on the branch of a tree near the trunk, or on the bole of a willow. The eggs, 4 to 5 in number, are white with a faint greyish olivaceous tinge, unspotted, and measure about 0·66 by 0·5.

MUSCICAPA, Briss., 1760.

377. Spotted Flycatcher.

MUSCICAPA GRISOLA.

Muscicapa grisola, Linn. Syst. Nat. i. p. 328 (1766); Naum. ii. p. 216, Taf. 64, fig. 1; Hewitson, i. p. 74, pl. xxi. fig. 1; Gould, B. of E. ii. pl. 65; id. B. of Gt. Brit. ii. pl. 19; Newton, i. p. 220; Dresser, iii. p. 447, pl. 156; Oates, F. Brit. Ind. Birds, ii. p. 4; Sharpe, Cat. B. Br. Mus. iv. p. 151; Saunders, p. 157; Lilford, ii. p. 83, pl. 39.

Gobe-mouche gris, French; *Taralhão*, Portug.; *Papa-moscas*, Span.; *Piglia-mosche*, Ital.; *Graue Fliegenfänger*, Germ.; *Vliegenvanger*, Dutch; *Graa Fluesnapper*, Dan. and Norweg.; *Grå Flugsnappare*, Swed.; *Harmaa-kärpässieppaaja*, Finn.; *Saraya Mycholovka, Pienka*, Russ.

♂ *ad.* (England). Upper parts hair-brown, the feathers on the crown with dark centres; wings and tail darker, the inner secondaries margined with pale brown; under parts white, the breast washed with light brown; sides of the throat, breast, and flanks sparingly streaked with hair-brown; flanks tinged with yellowish buff; beak dark brown; legs blackish; iris hazel-brown. Culmen 0·52, wing 3·35, tail 2·5, tarsus 0·6 inch. Sexes alike. The young birds are profusely spotted with buffy white, the larger wing-coverts are broadly tipped with buff; under parts white, marked on the breast and throat with brown.

Hab. Europe generally, as far north as Lapland; Asia as far east as the valley of the Irkut, and rarely to Dauria, and in the Himalayas to Simla; wintering in the plains of India, and in Africa as far south as the Cape Colony.

Very tame and confiding, it is one of our best known birds. It usually perches on a stick, fence, or bare bough, from whence it takes short flights after passing insects, returning to the same perch. It feeds on insects of various kinds, which it captures chiefly on the wing, but it has been known to eat berries in the autumn. Its note is a prolonged, somewhat melancholy *tshee* several times repeated, and it has no regular song. It breeds late in May or in June, placing its cup-shaped nest in a hollow tree, a hole in a wall, amongst creepers, or ivy, rarely in a bush. The nest is constructed of moss, rootlets, and grass-bents, lined with wool, hair, or feathers, and the eggs, 4 or 5 in number, are pale blue-green or sea-green with pale red or purplish red shell-markings and dark surface-blotches, and measure about 0·7 by 0·56.

378. Pied Flycatcher.

MUSCICAPA ATRICAPILLA.

Muscicapa atricapilla, Linn. Syst. Nat. i. p. 326 (1766); Hewitson, p. 75, pl. xxi. fig. 2; Gould, B. of Gt. Brit. ii. pl. 17; Newton, i. p. 229; Dresser, iii. p. 453, pl. 157, 158, fig. 2; Sharpe, Cat. B. Br. Mus. iv. p. 157; Saunders, p. 159; Lilford, ii. p. 89, pl. 41; *M. luctuosa* (Scop.), Ann. i. Hist. Nat. i. p. 146 (1769); Naum. ii. p. 231, Taf. 64, figs. 2–4.

Gobe-mouche noir, French; *Cerrojillo*, Span.; *Balia nera*, Ital.; *Schwarzgrauer Fliegenfänger*, Germ.; *Zwartgraauwe Vliegenvanger*, Dutch; *Broget Fluesnapper*, Dan.; *Svartochhvit Flugsnappare*, Swed.; *Mustankirjava-paamalintu*, Finn.; *Tschernogolovaya-Mycholovka*, Russ.

♂ *ad.* (Germany). Upper part, with sides of the head and neck, wings, and tail, deep black; a small frontal spot, a small alar speculum, broad margins to the inner secondaries, the outer web of outer tail-feathers, and the entire under parts pure white; bill and legs black; iris brown. Culmen 0·48, wing 3·05, tail 2·15, tarsus 0·7 inch. In the autumn the upper parts are more sooty brown in tinge, and the breast and flanks are slightly washed with buff. The female has the upper parts dark hair-brown, the margins to the secondaries narrower and the under parts dull white.

Hab. Europe generally, east to the Black Sea, north to the Vanger and Porsanger fiords, west to the Canaries; wintering in Africa as far south as the river Gambia. It breeds also, though somewhat locally, in England.

Frequents groves and woods, especially where there are old trees, and is much more a forest-haunting bird than *M. grisola*, being but seldom found near human habitations. It feeds on insects, which it captures chiefly on the wing, and is said also to eat berries in the autumn. Its call-note is a soft *witt, witt*, and its song, which is short, somewhat melancholy in tone, and slightly resembles that of *Ruticilla phœnicurus*. It breeds in May and June, selecting a convenient hole in a tree, usually an old oak or beech, in which to place its nest, which is loosely constructed of rootlets, moss, and grass-bents, lined with wool, hair, or feathers. The eggs, from 4 to 6, rarely 7, in number, are delicate pale blue-greenish white, occasionally speckled with pale reddish brown, and measure about 0·67 by 0·52.

379. WHITE-COLLARED FLYCATCHER.

MUSCICAPA COLLARIS.

Muscicapa collaris, Bechst. Gemeinn. Naturg. Deutschl. iv. p. 495 (1795); Gould, B. of Gt. Brit. 11, pl. 18; Dresser, iii. p. 459, pl. 158, fig. 1; Sharpe, Cat. B. Br. Mus. iv. p. 160; Saunders, p. 160; *M. albicollis*, Temm. Man. d'Orn. p. 100 (1815); Naum. ii. p. 224, Taf. 65, figs. 1, 2, and 352, fig. 1.

Gobe-mouche à collier, French; *Balia*, Ital.; *Weisshalsiger Fliegenfänger*, German; *Hvidhalset Fluesnapper*, Dan.; *Halsbands Flugsnappare*, Swed.; *Mycholovka-Dieloscheyka*, Russ.

♂ *ad.* (Malta). Differs from *M. atricapilla* in having a white collar extending right round the neck; frontal patch and speculum larger; lower back greyish white and less white on the outer tail-feathers. Culmen 0·45, wing 3·15, tail 2·05, tarsus 0·65 inch. The female closely resembles that of *M. atricapilla*, but has, as a rule, the alar speculum rather larger, and the tarsus slightly shorter.

Hab. Central and Southern Europe, east to Asia Minor, straying rarely as far north as Denmark; wintering in N. Africa; of very doubtful occurrence in Great Britain.

In its general habits it does not differ from *M. atricapilla*, and like that bird places its nest in the hole of an old tree, and in May or early in June deposits 4 to 7 eggs, which resemble those of *M. atricapilla*, but are invariably unspotted, and somewhat paler in colour, and in size are about the same as those of *M. atricapilla*.

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380. SUBSP. MUSCICAPA SEMITORQUATA.

Muscicapa semitorquata, E. F. von Homeyer, Zeitschr. gesammt. Orn. 1885, p. 185, Taf. x. ; Dresser, ix. p. 173.

♂ *ad.* (Turkey). Most nearly resembles *M. collaris*, but the white collar extends only half way round the neck, not meeting behind, and the two outer tail feathers are white, with a terminal black patch on the inner web. Culmen 0·4, wing 3·2, tail 2·0, tarsus 0·7 inch.

Hab. Southern Russia, the Caucasus, and east to Persia, occasionally straying as far west as Turkey.

I find nothing on record respecting the habits or nidification of this bird.

381. RED-BREASTED FLYCATCHER.

MUSCICAPA PARVA.

Muscicapa parva, Bechst. Gemeinn. Naturg. Deutschl. iv. p. 505 (1795) ; Naum. ii. p. 241, Taf. 65, fig. 3 ; Gould, B. of E. ii. pl. 64 ; id. B. of Gt. Brit. ii. pl. 20 ; Newton, i. p. 224 ; Dresser, iii. p. 465, pl. 159 ; Sharpe, Cat. B. Br. Mus. iv. p. 161 ; (Oates) F. Brit. Ind. Birds, ii. p. 9.

Gobe-mouche rougeâtre, French ; *Pigliamosche pettirosso*, Ital. ; *Kleiner Fliegenschnäpper*, German ; *Lille Fluesnapper*, Dan. ; *Lilla Flugsnappare*, Swed. ; *Malaya Mycholovka*, Russ.

♂ *ad.* (Germany). Crown, sides of head and neck, and nape ashy blue-grey, tinged with brown on the crown ; upper parts wood-brown, the upper tail-coverts blackish : wings brown, externally margined with fulvous, middle tail-feathers and the terminal third of the rest blackish, the basal portion white ; chin, throat, and upper breast rusty orange ; rest of the under parts white, flanks washed with warm buff ; bill brown above, brownish flesh below ; legs black ; iris dark brown. Culmen 0·45, wing 2·65, tail 2·15, tarsus 0·68 inch. The female has the upper parts as in the male, the crown similarly coloured to the back, and the under parts dull white, the lower throat, breast, and flanks washed with warm buff. The young male resembles the female, but has the under parts white, slightly tinged with buff on the breast, the flanks washed with warm buff.

Hab. Central and Southern Europe, rarely straying as far north as Southern Sweden and Great Britain ; Asia as far east as the Yenesei and Turkestan ; wintering in North Africa and India.

Frequents groves and woods, especially where beech- and fir-trees are intermingled, and is shy and secretive in its habits, usually frequenting the higher branches of large trees. It feeds on insects of various kinds, which it captures chiefly on the wing, and in the autumn to a small extent on berries. Its call-note is a soft *hveet hveet*, and its song, which is clear and sweet, resembles that of the Wood Wren, but is richer and fuller in tone, and may be heard from the early morn to sunset. Its nest, which is placed in the hole of a tree at from 8 to 10 feet from the ground, is constructed of moss, and scantily lined with hair, and the eggs, from 5 to 6, sometimes 7 in number, are deposited early in June, and are white, closely marked with dull light reddish buff or reddish grey, resembling dull, closely-marked eggs of *E. rubecula*, but are much smaller, measuring 0·7 by 0·5.

378. SUBSP. MUSCICAPA ALBICILLA.

Muscicapa albicilla, Pall. Zoogr. Ross. As. i. p. 462, Aves, tab. 1 (1811); Sharpe, Cat. B. Br. Mus. iv. p. 162; Oates, F. Brit. Ind. Birds, ii. p. 10; Tacz. F. O. Sib. O. p. 469; *M. leucura* (nec. Gmel.), Swains. Hist. Nat. Flyc. p. 253 (1838); (Jerd.) B. of Ind. i. p. 481.

Turra, Hind.; *Chut-ki*, Beng.

♂ *ad.* (India). Differs from *M. parva* in having the head and neck like the back, and not ashy blue, and the rufous orange is confined to the upper throat. Culmen 0·47, wing 2·7, tail 2·15, tarsus 0·75 inch. The female closely resembles that of *M. parva.*

Hab. Eastern Siberia and China; wintering in India as far west as Nepal and Dinapore, in Burma south to Tenasserim.

Does not differ from *M. parva* in its general habits, and also places its nest in the hole of a tree, usually at no great distance from the ground. The eggs resemble those of *M. parva*, but the ground colour is white, and the markings are usually collected round the larger end, leaving the rest of the egg unspotted.

379. MUGIMAKI FLYCATCHER.

MUSCICAPA LUTEOLA.

Muscicapa luteola (Pall.), Zoogr. Ross. As. i. p. 470 (1811); Middend Sib. Reis. ii. p. 186, Taf. 17, figs. 1–3; (Sharpe) Cat. B. Br. Mus. iv. p. 201; (Tacz.) F. O. Sib. O. p. 472; *M. mugimaki*, Temm. Pl. Col. iii. pl. 577, fig. 2 (1829); Temm. and Schlegel, Faun. Jap. Aves, p. 47, Taf. xvii. B.

♂ *ad.* (E. Siberia). Crown, nape, sides of head and neck, and upper parts generally dark slaty grey, nearly black; wings and tail blackish, the median and greater wing-coverts and the basal half of most of the outer tail-feathers pure white; behind the eye a white stripe; chin, throat, and breast rich orange, the flanks yellowish; rest of under parts white; bill black; legs brown; iris dark brown. Culmen 0·4, wing 3·1, tail 2·2, tarsus 0·6 inch. The female has the upper parts olive-brown, the larger wing-coverts tipped with white, and the under parts paler than in the male. The young are paler than the female, have the sides of the face grey, the cheeks more or less blackish, two buffy white bars across the wing, and the young female has no white at the base of the tail.

Hab. Eastern Siberia, migrating through Corea, Japan, and China; and wintering in the Malay peninsula and Borneo.

In habits it appears to resemble *M. parva*, but is much more silent, though it is said to have a pleasant song; it breeds in Eastern Siberia, placing its nest in a conifer tree at from 6 to 18 feet above the ground, well concealed. The nest is constructed of rootlets of fir-trees, moss, and lichens, and is carefully lined with moss, fine grasses, and hair. The eggs are in colour similar to those of *Cyanecula suecica*, olive green, dotted with pale red. In number they are usually 4, are deposited in the latter half of June, and measure about 0·65 by 0·48

CYANOPTILA, Blyth, 1847.

380. JAPANESE BLUE FLYCATCHER.

CYANOPTILA CYANOMELÆNA.

Cyanoptila cyanomelæna (Temm.), Pl. Col. iii. pl. 470 (1829); (Temm. and Schlegel), Faun. Jap. p. 47, pls. 16, 17D; (Sharpe), Cat. B. Br. Mus. iv. p. 251; David and Oust. Ois. Chine, p. 116, pl. 81; (Seebohm) B. Jap. Emp. p. 59; Tacz. F. O. Sib. O. p. 482.

Ōruri, Japanese.

♂ *ad.* (Japan). Crown, nape, and upper parts generally rich cobalt blue, the crown brighter blue; quills black, externally narrowly margined with blue; tail white on basal half, otherwise black, the outer webs of all but the middle feathers cobalt-blue; chin, throat, sides of neck and head, breast, and flanks deep black; rest of the under parts white; bill black; legs brown; iris dark brown. Culmen 0·62, wing 3·7, tail 2·6, tarsus 0·65 inch. The female has the upper parts olivaceous brown, the wings dark brown, with olivaceous margins, the tail brown, with warm olivaceous external margins, but with no white at the base, the throat, breast, and flanks dull brownish; a large spot on the throat and rest of the under parts white. The young male has the tail and wings like the old male, but rather paler, the rest of the plumage being as in the female, except that the lower back and rump are blue. The nestling is spotted and very like the young of *Muscicapa grisola*, but much darker.

Hab. Eastern Siberia, Manchuria, and Japan, passing through China on migration; and wintering as far south as Borneo.

Frequents woods and groves where conifers are intermingled with deciduous trees, and in its general habits resembles the true Flycatchers. Its song is said to be melodious and prolonged, and is usually uttered from the top of a tree. It breeds in the Ussuri country, where it arrives about the middle of May, and in Japan, placing its nest in a mossy bank; and its eggs, 5 in number, are greyish white with very faint darker markings at the larger end, and measure about 0·76 by 0·64.

XANTHOPYGIA, Blyth, 1847.

381. NARCISSUS FLYCATCHER.

XANTHOPYGIA NARCISSINA.

Xanthopygia narcissina (Temm.), Pl. Col. iii. pl. 577, fig. 1 (1838); (id. and Schlegel), Faun. Jap. Aves, p. 46, pls. 17, 17c; Sharpe, Cat. B. Br. Mus. iv. p. 249; Tacz. F. O. Sib. O. p. 479; Seebohm, B. Jap. Emp. p. 61.

♂ *ad.* (Japan). Crown, nape, sides of head and neck, wings, tail, and upper parts deep black; a large white patch on the wing-coverts; rump, lores, and a broad supercilium bright lemon-yellow; chin, throat, and breast bright orange-yellow; flanks lemon-yellow; rest of the under parts white; beak black, paler below; legs plumbeous; iris blackish brown. Culmen 0·51, wing 3·05, tail 1·95, tarsus 0·62 inch. The female is olive-brown above, tinged with greenish on the rump; under parts whitish, washed with yellow; supercilium yellowish white; wings brown, margined with rufous; tail rufous brown. The young bird has the upper parts dark brown, closely spotted with ochreous; wings and tail brown with fulvous margins, under parts white, the throat finely and the breast boldly spotted with brown.

Hab. The island of Saghalien and Japan, occurring on the east and south coasts of China on migration; and wintering in the Philippines; it is said to remain occasionally in Japan in the winter.

In its habits it is very shy and frequents the deep woods, especially those where there are old trees. Its song is melodious and pleasant though somewhat short, and it is a most industrious songster. It feeds on insects of various kinds, which, to a large extent, it captures on the wing. It breeds in Japan and the island of Saghalien, placing its nest in a hole of an old tree, and in June deposits from 4 to 6 eggs, which are pale greenish white somewhat sparingly spotted and blotched with pale red, and measure about 0·69 by 0·54.

382. Corean Flycatcher.

XANTHOPYGIA TRICOLOR.

Xanthopygia tricolor (Hartl.), Rev. Zool. 1845, p. 406; David and Oust. Ois. Chine, p. 118, pl. 80; Sharpe, Cat. B. Br. Mus. iv. p. 250; Tacz. F. O. Sib. O. p. 480; *X. leucophrys*, Blyth, J. A. S. B. xvi. p. 123 (1847).

♂ *ad.* (Corea). Differs from *X. narcissina*, merely in having the lores and supercilium white, not yellow, and the throat and breast lemon-yellow, not orange, and there is less white and more yellow on the abdomen. Culmen 0·5, wing 2·9, tail 1·95, tarsus 0·7 inch. The female resembles that of *X. narcissina*, but has the lores and supercilium dull white, not yellow.

Hab. Dauria, the Ussuri country, Mongolia, Corea, and North China; wintering in the Malay peninsula.

In habits it does not differ from *X. narcissina*, and like that species breeds in hollow trees. The nest is very loose, composed of rootlets and plant-bents, lined with finer bents, and the eggs, which are deposited early in June, vary considerably. The ground colour is white or pale creamy white, some being minutely dotted all over the surface with faint red, others again being boldly spotted or blotched with red, and in some the markings are collected round the larger end. In size they average about 0·64 by 0·52.

TERPSIPHONE, Gloger, 1827.

383. Indian Paradise Flycatcher.

TERPSIPHONE PARADISI.

Terpsiphone paradisi, (Linn.) Syst. Nat. i. p. 324 (1766); Gould, B. of Asia, ii. pl. 18; Sharpe, Cat. B. Br. Mus. iv. p. 346; Oates, F. Brit. Ind. Birds, ii. p. 45.

Shah Bulbul, *Taklah*, *Doodhraj*, Ind.

♂ *ad.* (India). Head and neck glossy blue-black, crown feathers elongated; upper parts, wings, and outer tail-feathers bright fox-red, the inner secondaries white, with a long central black line, and tipped with black; middle rectrices much elongated, white, terminated with fox-red, or all fox-red; under parts below the throat white; bill lilac-blue; legs pale blue; iris dark brown. Culmen 1·0, wing 3·6, tail (except central rectrices) 4·7, central rectrices 7·8 longer, tarsus 0·7 inch. The old males, however, lose the fox-red on the upper parts, and have those parts and the tail pure white. The female has the upper parts light bay, the tail light chestnut, the middle rectrices not elongated as in the male, and the sides of the breast greyish, the flanks tinged with rufous. The young bird has the head dusky grey, tinged with rufous, the upper parts rather darker than the female, and the throat and breast greyish tinged with rufous.

Hab. Turkestan, Afghanistan, the Himalayas; India east to Nepal; Ceylon; resident throughout its range.

Frequents the forests and well wooded districts, being comparatively seldom seen in the open country, and is very partial to bamboo jungle. In its habits it is restless, and continually on the move from tree to tree. Its flight is undulating, and it has a curious appearance on the wing, its long tail moving in jerks. Its note is a harsh grating cry. It feeds on small flies and *Cicadellæ*, which it generally captures on the wing, though it sometimes picks them off a leaf or bough. It breeds both on the plains, and in the hills to an altitude of about 5,500 feet, placing its nest on a tree, usually at some height above the ground. The nest is cup-shaped, rather shallow, constructed of moss, rootlets, vegetable fibres, and fine grass, interwoven with cobwebs, lined with finer grass and sometimes horse-hairs. The eggs, from 4 to 5 in number, are pinky white or warm salmon-pink, more or less closely speckled, chiefly at the larger end, with bright brownish red spots, in size averaging about 0·81 by 0·6. They are deposited in May, June, or July.

384. JAPANESE PARADISE FLYCATCHER.

TERPSIPHONE PRINCEPS.

Terpsiphone princeps (Temm.), Pl. Col. iii. pl. 584 (1836); Sharpe, Cat. B. Br. Mus. iv. p. 361; (David and Oust.) Ois. Chine, p. 113; Seebohm, B. Jap. Emp. p. 63; *Muscipeta principalis*, Temm. and Schlegel, Faun. Jap. p. 47, pl. 17E.

Sankocho, Jap.

♂ *ad.* (Japan). Head, neck, and breast glossy black, crown crested; upper parts generally purplish maroon, the quills blackish, externally margined with maroon-purple ; tail black, slightly glossed with purple ; flanks blackish ; rest of under parts white ; bill bluish, edge of the eyelid cobalt ; iris blackish. Culmen 0·65, wing 3·72, tail 4·6, the middle rectrices 5·4 longer, tarsus 0·65 inch. The female resembles that of *T. incii*, but has the throat greyer and paler, and the black on the crown less extended.

Hab. Japan, the coasts of Southern China on migration; wintering in the Malay peninsula.

In general habits it does not differ from *T. paradisi.* It breeds commonly in Japan in June and July, placing its nest in the fork of a tree from 8 to 12 feet from the ground, and constructing it of dry grass, strips of bark and moss, interwoven with lichen or spiders' webs, and lined with fine moss-roots. The eggs, 4 to 5 in number, resemble the rufous variety of the eggs of *Lanius collurio,* but are not so round.

385. Chinese Paradise Flycatcher.

TERPSIPHONE INCII.

Terpsiphone incii (Gould), B. of Asia, ii. pl. 19 (1852) ; David and Oust. Ois. Chine, p. 112, pl. 82 ; Sharpe, Cat. B. Br. Mus. iv. p. 350 ; Bianchi and Berezovski, Ptitz. Kan-su, &c., p. 73.

Paé-lién, Hong-lién, Chinese.

♂ *ad.* (China). Differs from *T. paradisi* in having the upper parts, including the secondaries, much darker, rich chestnut-maroon, the tail similarly coloured ; quills blackish, broadly margined with chestnut-maroon ; inner secondaries chestnut-red, with a broad central black line ; breast and flanks slate-grey, rest of under parts white ; bill and eyelid cobalt blue ; legs greenish ; iris brown. Culmen 0·85, wing 4·1, tail 4·7, the middle rectrices 6·8 longer, tarsus 0·68 inch. The female has not the middle feathers elongated, is paler, and has a shorter crest. According to Messrs. David and Oustalet, the old males, like *T. paradisi,* assume a white plumage.

Hab. Manchuria and China, ranging south to the Malay peninsula and Sumatra.

In habits it is said to resemble *T. paradisi,* and in China it frequents the plains and low hills, not the mountains, and is often seen in gardens.

PERICROCOTUS, Boie, 1826.

386. ASHY MINIVET.

PERICROCOTUS CINEREUS.

Pericrocotus cinereus, Lafresn. Rev. Zool. viii. p. 94 (1845) ; Gould, B. of Asia, ii. pl. 11 ; David and Oust. Ois. Chine, p. 107 ; Sharpe, Cat. B. Br. Mus. iv. p. 83 ; Oates, F. Brit. Ind. Birds, i. p. 489 ; Seebohm, B. Jap. Emp. p. 106 ; Tacz. F. O. Sib. O. p. 462.

Shanshokui, Japanese.

♂ *ad.* (China). Forehead and fore-crown white ; lores, and a line at the base of the bill, a line through the eye, hind crown, and nape deep black ; upper parts generally slate-grey ; wings and tail black, the former externally margined with slate-grey; external rectrix white on terminal half; chin, throat, and under parts white ; bill and legs black ; iris brown. Culmen 0·6, wing 3·85, tail 3·95, tarsus 0·7 inch. The female has the crown grey like the back, rather paler on the forehead, lores only black, and the breast and flanks tinged with pale slate-grey.

Hab. Eastern Siberia (the Bureja mountains and Ussuri country), Japan, and Corea; migrating through China to winter in Burma, the Malay peninsula, Borneo, Sumatra, and the Philippines.

Frequents the deciduous woods, and is shy and wary. After the breeding season it collects in flocks and frequents the tops of the oaks and other greenwood trees, making a hubbub that betrays its presence. Its note is said to resemble that of a Shrike. It breeds in Eastern Siberia, Corea, and Japan, in May, June, and July, placing its nest in a tree at from 10 to 20 feet from the ground, often quite at the end of a branch, and deposits 5 to 6 eggs, of which I have seen no authentic specimens.

387. SHORT-BILLED MINIVET.

PERICROCOTUS BREVIROSTRIS.

Pericrocotus brevirostris (Vigors), P.Z.S. 1831, p. 43 ; (Gould) Cent. Himal. B. pl. 8 ; Hend. and Hume, Lah. to Yark. p. 184 ; Sharpe, Cat. B. Br. Mus. iv. p. 79 ; Oates, F. Brit. Ind. Birds, i. p. 483 ; Bianchi and Berezovski, Ptitz. Kan-su, p. 104 ; David and Oust. Ois. Chine, p. 104.

♂ *ad.* (Nepal). Head, neck, throat, upper breast and back, wings and middle rectrices glossy blue-black ; remaining rectrices, rump, lower back, a broad band across the wing, and under parts rich deep crimson-vermilion ;

bill and legs black; iris dark brown. Culmen 0·45, wing 3·45, tail 4·01, tarsus 0·55 inch. The female has the forehead, lower back, rump, band across the wing, and under parts bright yellow, the rump rather duller; crown, nape, and back slate-grey slightly washed with apple-yellow; middle rectrices and base of the rest black, the terminal portion of the latter rich yellow.

Hab. The Himalayas from Eastern Kashmir to Assam, Upper Burma, Manchuria, Kan-su, N. China, frequenting the mountains in the summer, and wintering on the plains.

In habits it resembles its allies, and frequents woods and groves of non-evergreen trees. Its note is a silvery *ti-ti-ti*, and like its allies it feeds chiefly on insects of various kinds and their larvæ. It breeds in the mountains at an elevation of from 3,000 to 6,000 feet, in May and June, building a compact and delicate cup-shaped nest, pretty high up in an oak, rhododendron, or other deciduous tree. The nest is constructed of fine twigs, fir-needles, grass-roots, fine grass, and herbaceous plant-stems, interwoven and coated with cobwebs and lichens, without any lining. The eggs, 4 to 5 in number, are dull white, tinged with pink or pale green, richly and profusely blotched, spotted, and streaked, usually most densely towards the larger end, with brownish red and pale purple, and average about 0·76 by 0·57.

HIRUNDO, Linn., 1766.

388. The Swallow.

HIRUNDO RUSTICA.

Hirundo rustica, Linn. Syst. Nat. i. p. 343 (1766); Naum. vi. p. 49, Taf. 145, fig. 1; Gould, B. of E. ii. p. 54; Hewitson, i. p. 257, pl. lxv. figs. 3, 4; Gould, B. of Gt. Brit. ii. pl. 5; Newton, ii. p. 340; Dresser, iii. p. 477, pl. 160, fig. 1; Sharpe, Cat. B. Br. Mus. x. p. 128; Saunders, p. 163; Lilford, ii. p. 78, pl. 36.

Hirondelle de cheminée, French; *Andorinha*, Portug.; *Golondrina*, Span.; *Rondine*, Ital.; *Rauch-Schwalbe*, German; *Zwaluw*, Dutch; *Hussvale*, *Forstuesvale*, Dan.; *Ladesvale*, Norweg.; *Ladusvala*, Swed.; *Latopääskynen*, Finn.; *Kosatotchka*, Russ.; *Ababil*, Hindu; *Pyan-hlwa*, Burmese.

♂ *ad.* (Sweden). Forehead, chin, and throat chestnut; rest of the head and entire upper parts glossy steel-blue, the dorsal feathers white at the base, wings and tail black, glossed with bottle-green, all but the middle tail-feathers with a white patch towards the end of the inner web; across the lower throat a broad black band glossed with steely blue; rest of the under parts buffy white; bill and legs black; iris brown. Culmen 0·4, wing 4·8, tail 4·7, lateral rectrices extending about 2·75 beyond the middle ones, tarsus 0·45 inch. Sexes alike.

Hab. Europe generally; Asia as far east as the Yenesei valley and even Manchuria; wintering in Africa as far south as the Cape Colony, in India, Burma, the Malay peninsula, China, and the Philippines.

In its habits it is confiding and anything but shy, and, feeding entirely on insects, it is one of our most harmless and useful birds. Exceedingly agile and swift on the wing, it captures its prey in the air, flying in fine weather at a considerable altitude, or gliding near the ground when the weather is dull and damp. Its only note is a low twitter, which it utters when collected with others, and perched on a bare bough or a telegraph wire, or when at its nest. It commences nidification directly after arrival at its breeding-place, and will select the same place year after year if undisturbed. Its nest, which is cup-shaped, constructed of mud worked together with bits of straw, and profusely lined with feathers, is placed on the face of a rock or quarry, in a chimney, under the eaves of a roof, or on the beam of an outhouse, and it is extremely partial to buildings. The eggs, from 4 to 5 or 6 in number, are white, sparingly marked with purplish grey shell-markings, and more profusely scattered dark red surface spots and blotches, in size averaging about 0·75 by 0·55. Two broods are usually reared in the season.

389. SUBSP. HIRUNDO GUTTURALIS.

Hirundo gutturalis, Scop. Del. Flor. and Faun. Insubr. ii. p. 96 (1786); David and Oust. Ois. Chine, p. 124; Sharpe, Cat. B. Br. Mus. x. p. 134; Tacz. F. O. Sib. O. p. 173; Oates, F. Brit. Ind. Birds, ii. p. 277.

Ad. (Siberia). Differs from *H. rustica* only in having the black thoracic band narrower, and more or less interrupted in the middle. Culmen 0·4, wing 4·7, tail 3·6, tarsus 0·4; outer rectrices 1·8 inch longer than the middle ones.

Hab. Eastern Siberia as far north as Kamchatka; Japan, Mongolia, and China; wintering in Southern China, Burma, India as far west as Calcutta, the Indo-Malayan area, and has been obtained as far south as the north coast of Australia.

In habits and nidification it does not differ from *H. rustica*.

390. SUBSP. HIRUNDO ERYTHROGASTRA.

Hirundo erythrogastra, Bodd. Tabl. Pl. Enl. p. 45 (1783); Sharpe, Cat. B. Br. Mus. x. p. 137; Ridgway, p. 461; Oates, F. Brit. Ind. Birds, ii. p. 279; *H. rufa*, Gmel. Syst. Nat. ii. p. 1018 (1788); Brewer, N. Am. Oolog. p. 91, pl. 5, figs. 63–67 (eggs); *H. horreorum*, Bartr. Fragm. Nat. Hist. p. 17 (1799); Baird, Brewer, and Ridg. Hist. N. Am. B. p. 339, pl. 16, fig. 9.

♂ *ad.* (N. America). Differs from *H. rustica* in having the thoracic band interrupted, and in having the under parts below the band pale rufous. Culmen 0·4, wing 4·7, tail 3·6, tarsus 0·42 inch.

Hab. North-Eastern Siberia, migrating through Mongolia; wintering in Burma and Southern China; N. America as far north as Alaska, south to Southern Brazil; a straggler to Greenland.

In habits and nidification it does not differ from *H. rustica.*

391. SUBSP. HIRUNDO SAVIGNII.

Hirundo savignii, Steph. Gen. Zool. x. p. 90 (1817); Dresser, iii. p. 473, pl. 160, fig. 2; Sharpe, Cat. B. Br. Mus. x. p. 133; *H. cahirica*, Licht. Verz. Doubl. p. 58 (1823); *H. riocouri*, Audouin, Descr. de l'Egypte, p. 270, pl. 4, fig. 4 (1825).

♂ *ad.* (Egypt). Differs from *H. rustica* in having the under parts deep chestnut, and the markings on the tail rufous white; the thoracic band is, however, continuous as in *H. rustica.* Culmen 0·4, wing 4·7, tail 4·3, tarsus 0·45 inch.

Hab. The valley of the Nile, where it is resident, and Palestine.

In habits it does not differ from *H. rustica*, and its nest and eggs are similar to those of that species. In Egypt it breeds from January to April.

392. SUBSP. HIRUNDO TYTLERI.

Hirundo tytleri, Jerdon, B. of Ind. iii. App. p. 870 (1864); Sharpe, Cat. B. Br. Mus. x. p. 140; Oates, F. Brit. Ind. Birds, ii. p. 278.

♂ *ad.* (Siberia). Has the under parts chestnut-red, nearly as dark as *H. savignii*, but the thoracic band is interrupted as in *H. erythrogastra.* Culmen 0·4, wing 4·8, tail, 4·0, tarsus 0·45 inch.

Hab. Eastern Siberia from Kamchatka west to Irkutsk; wintering in Burma.

In habits it does not differ from its allies, and indeed all the three preceding species as well as the present one so intergrade with each other and *H. rustica* that intermediate specimens are always to be found in a series, and they can only be looked on as very closely allied subspecies. In the British Museum are examples of *Hirundo erythrogastra* from Brazil and Pará which are absolutely undistinguishable from specimens of *H. tytleri* from Siberia.

393. RED-RUMPED SWALLOW.

HIRUNDO RUFULA.

Hirundo rufula, Temm. Man. iii. p. 298 (1835); Naum. xiii. p. 209, Taf. 383, fig. 4; Dresser, iii. p. 487, pl. 161; Gould, B. of Asia, i. pl. 27; Sharpe, Cat. B. Br. Mus. x. p. 156; Oates, F. Brit. Ind. Birds, ii. p. 284; *H. scullii*, Seebohm, Ibis, 1883, p. 167; Sharpe, tom. cit. p. 158.

Hirondelle rousseline, French; *Rondine forestiera*, Ital.; *Alpen-Schwalbe*, German.

♂ *ad.* (Asia Minor). Crown, back, and scapulars deep black glossed with steel-blue; nape, hind neck, sides of the neck and rump rusty red, the last paling almost to white on the shorter tail-coverts; wings, tail, and longer tail-coverts black, slightly glossed with steel-blue; under parts white washed with pale rufous buff on the breast, flanks, and abdomen, the whole under parts very finely streaked with black; bill blackish; legs dark brown; iris blackish brown. Culmen 0·32, wing 4·8, tail 4·15, tarsus 0·55 inch. Sexes alike.

Hab. Southern Europe as far west as Italy and Sicily, ranging east through Asia Minor and Palestine to Persia, Afghanistan, and Turkestan. In winter it occurs as far south as Abyssinia, and it has strayed on one occasion at least as far north as Heligoland, and has occurred in Malta.

In habits it much resembles *H. rustica*, and like that species captures its insect food almost entirely on the wing. Its note is said to differ slightly from that of the Common Swallow, and it differs widely in its mode of nidification, for it constructs a retort-shaped nest of mud with a funnel-shaped entrance, and lines it with grass and feathers. The nest is attached to the under side of the roof of a cave or vault, and this species never nests in colonies, but singly. It breeds commonly in South-east Europe and Palestine. The eggs, from 4 to 5 in number, are pure white, unspotted, and measure about 0·80 by 0·55.

394. Subsp. Hirundo daurica.

Hirundo daurica, Linn. Mantissa, p. 528 (1771); Sharpe, Cat. B. Br. Mus. x. p. 159; Oates, F. Brit. Ind. Birds, ii. p. 282; (Tacz.) F. O. Sib. O. p. 182; *H. alpestris*, Pall. Reis. Russ. Reichs, ii. App. No. 19 (1771–76); Naum. xiii. p. 209, pl. 383, fig. 3; (Gould) B. of Asia, i. pl. 28.

Lastotchka daurskaya, Russ.

♂ *ad.* (Siberia). Differs from *H. rufula* in having the black on the head joined to the back, and not separated by the rufous collar, the lower back and rump cinnamon-rufous with a few indistinct blackish lines, and the under wing-coverts more rufous in tinge. Culmen 0·4, wing 5·0, tail 4·7, tarsus 0·55 inch.

Hab. Siberia from the Irtisch to Dauria and the Ussuri country, Mongolia, Kan-su and Ordos, China, Assam; somewhat rare in Corea.

In habits it does not differ from *H. rufula*, and like that species builds a retort-shaped nest of mud lined with wool, hair, or feathers, and deposits 4 to 6 white eggs.

395. Subsp. Hirundo striolata.

Hirundo striolata, Temm. and Schlegel, Faun. Jap. Aves, p. 33 (1850); Oates, F. Brit. Ind. Birds, ii. p. 281; *H. japonica*, Bp. Consp. Gen. Av. i. p. 340 (1850); Temm. and Schlegel, op. cit., p. 33, pl. 11; (David and Oust.) Ois. Chine, p. 127; Sharpe, Cat. B. Br. Mus. x. p. 162.

♂ *ad.* Differs from *H. rufula* in having the rufous collar interrupted on the nape, the black on the head joining that on the mantle; rump chestnut with distinct black shafts; lores black; under parts coarsely streaked with black, and the under tail-coverts with the terminal halves black. Culmen 0·4, wing 4·9, tail 4·0, tarsus 0·6 inch.

Hab. Japan and China; wintering in Burma, and as far south as the island of Flores.

In habits and nidification it does not differ from *H. rufula*, indeed both the present form and *Hirundo daurica* can only be looked on as subspecies, as specimens occur which intergrade, though the extreme forms are readily separable.

CHELIDON, Boie, 1822.

396. HOUSE-MARTIN.

CHELIDON URBICA.

Chelidon urbica (Linn.), Syst. Nat. i. p. 344 (1766); (Naum.), vi. p. 75, Taf. 145, fig. 2; (Gould) B. of E. ii. pl. 57; id. B. of Gt. Brit. ii. pl. 6; Hewitson, i. p. 261, pl. lxv. fig. 2; Newton, ii. p. 349; Dresser, iii. p. 495, pl. 162; Sharpe, Cat. B. Br. Mus. x. p. 87; Oates, F. Brit. Ind. ii. p. 269; Saunders, p. 165; Lilford, ii. p. 80, pl. 37.

Hirondelle de fenêtre, French; *Andorhina*, Portug.; *Avión*, Span.; *Rondine comune*, Ital.; *Haus-Schwalbe*, German; *Huiszwaluw*, Dutch; *Marsvale*, Dan.; *Tagsvale*, Norw.; *Hussvala*, Swed.; *Räystäspääskynen*, Finn.; *Lastotchka Gorodskaya*, Russ.

♂ *ad.* (England). Head, nape, back, and scapulars glossy blue-black; rump, upper tail-coverts (except those nearest to the tail, which are black), and entire under parts white; wings and tail black, slightly glossed with steel-blue; tarsus and toes feathered; bill black; iris blackish brown. Culmen 0·35, wing 4·25, tail 2·65, tarsus 0·45 inch; outer rectrices 0·85 longer than the middle ones. Sexes alike. The young bird is duller in colour, brownish with but little gloss where the old bird is black, has but a trace of the pectoral collar, and the under parts are dull-white.

Hab. Europe, as far north as the South Varanger and Porsanger fiords, ranging east to Turkestan and west to the Canaries and Madeira; wintering as far south as Central Africa and North-West India.

Like the Swallow it spends most of its time, during the day, on the wing, and captures its insect food in flight. It does not appear, however, to be quite so strong on the wing as that species, though quite as graceful. It usually arrives at its breeding-place a few days later than the Swallow, and if undisturbed will occupy the same nesting-place year after year. Its note is a low twitter, which, during the breeding season, is continued till it constitutes a sort of warble. The nest is placed under the eaves of a roof, in the upper corner of a window or on the face of a sheltered rock, and like that of the Swallow is constructed of mud mixed with short straws, and lined with hair, wool, or feathers, but instead of being open is built right up, having an entrance hole on the sheltered side. The eggs, which are usually deposited in June, 4 or 5 in number, are pure white, rather elongated in shape, tapering towards one end, and average about 0·75 by 0·55. Two broods are raised in the season, and, exceptionally, three.

397. SUBSP. CHELIDON LAGOPODA.

Chelidon lagopoda (Pall.), Zoogr. R. As. i. p. 532 (1811); Tacz. F. O. Sib. O. p. 184; David and Oust. Ois. Chine, p. 130; *C. lagopus*, Sharpe, Cat. B. Br. Mus. x. p. 93; Oates, F. Brit. Ind. Birds, ii. p. 270.

♂ *ad.* (Siberia). Differs from *C. urbica* in having all the upper tail-coverts white, the under wing-coverts and axillaries are much darker and the tail is only slightly forked. Culmen 0·32, wing 4·4, tail 2·15, tarsus 0·45 inch; outer rectrices 0·35 longer than the middle ones.

Hab. Siberia from the valley of the Yenesei to Dauria; N. China, Manchuria, Mongolia, and Turkestan; wintering in South China and Burma.

In habits it does not differ from *C. urbica*, and makes a nest like the nest of that species, but differing somewhat in the form of the entrance hole. The eggs, which are pure white, are undistinguishable from those of *C. urbica*. When on the wing the present species is said to utter a harsh note like that of *Cotile riparia*.

398. SUBSP. CHELIDON CASHMIRIENSIS.

Chelidon cashmiriensis, Gould, P.Z.S. 1858, p. 356; David and Oust. Ois. Chine, p. 539; Sharpe, Cat. B. Br. Mus. x. p. 90; Oates, F. Brit. Ind. Birds, ii. p. 269; Giglioli, Faun. Ital. p. 187.

♂ *ad.* (Himalayas). Differs from *C. urbica* in being somewhat smaller and in having the tail less forked. Culmen 0·3, wing 4·0, tail, 2·1, tarsus 0·5 inch; outer rectrices only, 0·25 longer than the middle ones.

Hab. The Himalayas from Kashmir to Sikhim, Mongolia; wintering on the plains of India. Is said to have occurred once in Italy.

In habits it does not differ from *C. urbica*, of which it is a closely allied subspecies. It breeds in the Himalayas and Kan-su, building a low cup-shaped nest of mud, with a largish aperture, and depositing 4 to 5 white eggs, which closely resemble those of *C. urbica*.

399. BLACK-CHINNED MARTIN.

CHELIDON DASYPUS.

Chelidon dasypus, Bp. Consp. i. p. 343 (1850); Sharpe, Cat. B. Br. Mus. x. p. 91; Seebohm, B. Jap. Emp. p. 144; *C. blakestoni*, Swinhoe, P.Z.S. 1862, p. 320; id. Ibis, 1874, p. 152, pl. vii. fig. 1.

Iwamaki-tsubame, Jap.

♂ *ad.* (Japan). Differs from *C. urbica* in having the black carried down much lower below the eye, and in having the chin black, the under parts greyish white, and the tail nearly square. Culmen 0·32, wing 4·2, tail 1·9, tarsus 0·45 inch; outer rectrices barely 0·2 longer than the middle ones.

Hab. Japan; wintering in Borneo.

In habits it agrees closely with its allies, and like them builds a nest of mud, which it places under the eaves of a roof or on ledges of cliffs, and deposits 4 to 5 pure white eggs which are undistinguishable from those of *C. urbica.*

COTILE, Boie, 1822.

400. SAND-MARTIN.

COTILE RIPARIA.

Cotile riparia (Linn.), Syst. Nat. i. p. 344 (1766); (Wilson) Am. Orn. v. p. 46, pl. 38, fig. 4; (Audub.) B. of Am. i. pl. 385; (Naum.) vi. p. 100, Taf. 146, figs. 3, 4; (Gould) B. of E. ii. pl. 58; id. B. of Gt. Brit. ii. pls. 7, 8; Hewitson, i. p. 264, pl. lxv. fig. 1; Newton, ii. p. 355; Dresser, iii. p. 505, pl. 163; Sharpe, Cat. B. Br. Mus. x. p. 96; Ridgw. p. 463; Saunders, p. 167; Lilford, ii. p. 82, pl. 38.

Hirondelle de rivage, French; *Pedreirinho*, Portug.; *Golondrina de ribera*, Span.; *Topino*, Ital.; *Uferschwalbe*, German; *Zandzwaluw*, Dutch; *Digesvale*, Dan.; *Strandsvale*, Norw.; *Backsvala*, Swed.; *Rantapääskynen*, Finn.; *Beregovoistrichok*, Russ.

♂ *ad.* (England). Upper parts hair-brown, rather paler on the rump and darker on the crown; wings and tail dark brown; a brown band across the upper breast, and flanks washed with pale brown; rest of the under parts white; a small tuft of buffy feathers above the hind toe; bill black; legs dark brown; iris brown. Culmen 0·3, wing 3·95, tail 3·15, tarsus 0·45 inch; tail forked, the outer rectrices 0·35 longer than the middle ones. The young bird has the upper parts browner, most of the feathers margined with fulvous, chin washed with pale rusty buff, and the sides of the throat slightly tinged with the same colour.

Hab. Europe generally, in Scandinavia as far north as the Porsanger and Varanger fiords, wintering in Africa as far south as the Transvaal; Asia, as far north and east as Kamchatka, wintering in Burma, India, S. China, and the Philippines; America from the Mackenzie river and Alaska south throughout the United States, wintering in Cuba, Jamaica, Central America, etc., south to Brazil.

In general habits it resembles other Martins, but differs wholly in its nesting places. Its food consists of small insects, which it usually captures on the wing, and will frequently pick one from the surface of water when skimming over it. Its note is a somewhat harsh *scheer*, which in the spring it modulates into an apology for a song. It nests in holes bored in river banks, old gravel pits, or in earth banks, or occasionally it will make use of a hole in an old wall. In a chamber at the end of its hole it forms a loosely-made nest of dry grass and feathers, never making a nest of clay. In May or June, 4 to 5 oval elongated pure white eggs are deposited, which in size average about 0·83 by 0·51. Two broods are usually raised in the season.

401. SUBSP. COTILE SINENSIS.

Cotile sinensis (Jerd.), Madr. Journ. xi. p. 238 (1840); David and Oust. Ois. Chine, p. 128; Sharpe, Cat. B. Br. Mus. x. p. 104; Oates, F. Brit. Ind. Birds, ii. p. 273; Tacz. F. O. Sib. O. p. 188; *Hirundo chinensis*, Gray, Illustr. Ind. Zool. i. pl. 35, fig. 3 (1830-32).

Abali, Hindu; *Nakuti*, Beng.

♂ *ad.* (India). Differs from *C. riparia* in having no collar across the breast and no tuft of feathers above the hind toe; chin, throat, breast, sides of the head and neck pale grey; rest of the under parts white. Culmen 0·25, wing 3·4, tail 1·8, tarsus 0·35 inch.

Hab. The Himalayas down to Bombay, where it is resident, ranging east to the Ussuri country in Manchuria; wintering in Southern China, Burma, Siam, and the Philippines.

In habits and nidification it does not differ from *C. riparia*, and like that species deposits 4 to 5 pure white eggs, which in size average about 0·68 by 0·5.

402. CRAG-MARTIN.

COTILE RUPESTRIS.

Cotile rupestris, Scop. Ann. i. Hist. Nat. p. 167 (1769); (Naum.) vi. p. 91, Taf. 146, figs. 1, 2; (Gould), B. of E. ii. pl. 56; Dresser, iii. p. 513, pl. 164; Sharpe, Cat. B. Br. Mus. x. p. 109; Oates, F. Brit. Ind. Birds, ii. p. 274.

Hirondelle de rocher French; *Audorinha das rochas,* Portug.; *Golondrina sylvestre,* Span.; *Rondine montana,* Ital.; *Gornui strichok,* Russ.

♂ *ad.* (Asia Minor). Upper parts mouse-brown, rather darker on the crown; wings and tail dull brown; all the rectrices except the two middle, and the outermost on each side with a large oval white spot on the inner web; throat and breast dirty white with a few dull brown streaks on the chin and upper throat; rest of under parts rusty ash-brown; under tail-coverts darker ashy brown; bill dark horn; feet brown; iris dark brown. Culmen 0·48, wing 5·25, tail 2·25, tarsus 0·45 inch. Sexes alike. The young has the upper parts darker, the back and scapulars margined with dull rufous, the secondaries edged with white, the upper tail-coverts with dull white margins, and the under parts duller.

Hab. Southern Europe; North Africa; ranging through Asia Minor east in Asia, to the Himalayas, Tibet, Mongolia, and N. China, and is resident almost throughout its range.

In general habits it does not differ much from its allies, and like them feeds on insects which it captures on the wing. Its flight is more fluttering, and less direct than that of the Swallow, and it frequently rests, perching on the dead branch of a tree or on a cliff. It frequents mountain gorges though not at great altitudes. Its note is a low *ch* or *chih.* It breeds late in May placing its nest in the roof of a cave and is not gregarious, more than one or two nests being seldom found in the same cave. The nest is a shallow cup of mud open at the sides, rather small for the size of the bird, and is lined with wool, thistle-down, and feathers. The eggs, 5 or 6 in number, resemble pale varieties of those of *H. rustica,* being white profusely spotted, chiefly at the larger end, with pale greyish brown surface-spots and a few indistinct shell-markings.

403. PALE CRAG-MARTIN.

COTILE OBSOLETA.

Cotile obsoleta Cab. Mus. Hein. i. p. 50 (1850); Dresser, iii. p. 521, pl. 165; Sharpe, Cat. B. Br. Mus. x. p. 111; Oates, F. Brit. Ind. Birds, ii. p. 275; Giglioi, Avif. Ital. p. 190.

♂ *ad.* (Egypt). Differs from *C. rupestris* in being smaller and much paler, the upper parts pale greyish sandy brown, the under parts creamy white, almost pure white on the chin and upper throat; flanks, lower abdomen, and under tail-coverts washed with dull rufous brown. Culmen 0·35, wing 4·5, tail 2·1, tarsus 0·45 inch. Sexes alike.

Hab. Palestine, Egypt, Nubia, S. Arabia, east to Sind, and is said to have occurred twice in Italy.

In habits it does not differ from *C. rupestris*, but it is frequently found in the desert and in N. Africa in the mountains to an elevation of from 11,000 to 12,000 feet. Its flight is swift though at times irregular. It breeds as early as March and places its cup-shaped nest in tombs, mosques, or other buildings in the desert, or in cracks in the rocks under overhanging precipices, or in caves, and the eggs are white, closely spotted with reddish brown.

CARDUELIS, Briss., 1760.

404. GOLDFINCH.

CARDUELIS ELEGANS.

Carduelis elegans, Steph. in Shaw's Gen. Zool. xiv. p. 30 (1826); Gould, B. of E. iii. pl. 196; id. B. of Gt. Brit. iii. pl. 36; Hewitson, i. p. 126, pl. l. fig. 1; Newton, ii. p. 117; Dresser, iii. p. 527, pl. 166; Saunders, p. 173; Lilford, iv. p. 53, pl. 26; *Fringilla carduelis*, Linn. Syst. Nat. i. p. 318 (1766); Naum. v. p. 126, Taf. 124, figs. 1, 2; (Sharpe), Cat. B. Br. Mus. xii. p. 185; *C. major*, Tacz. P.Z.S. 1879, p. 672.

Chardonneret, French; *Pintasilgo*, Portug.; *Gilguero*, Span.; *Cardellino*, Italian; *Stieglitz*, *Distelfink*, German; *Distelvink*, Dutch; *Stillids*, Dan. and Norw.; *Steglits*, Swed.; *Tiklivarpunen*, Finn.; *Shtchegol*, Russ.

♂ *ad.* (England). Feathers at the base of the bill, lores, hind crown, nape, and a crescentic line passing to the sides of the neck black; fore-crown, upper throat, and the space to behind the eye rich scarlet; cheeks, and a narrow nuchal line white; back, scapulars, and rump warm wood-brown; upper tail-coverts greyish white, but black at the base; wings black but the larger wing-coverts and the basal half of the outer web of most of the quills rich gamboge, most having a white spot at the tip; tail black, the middle feathers tipped with white, the outer with an oval white spot near the end of the inner web; under parts white washed with brown on the breast and flanks; bill whitish with the tip dark; legs dull flesh; iris dark brown. Culmen 0·5, wing 3·15, tail 2·1, tarsus 0·6 inch; tail slightly forked. The female resembles the male but is duller in colour and the lesser wing-coverts are brown. The young lack the red on the head, are greyish brown above, have the quills tipped with brownish buff and the chin and throat are white.

Hab. Europe generally, chiefly resident: Scandinavia as far north as the Trondhjem Fjord; North Africa, Canaries, Madeira; Asia as far east as Krasnoyarsk; wintering in Turkestan and Africa.

Frequents gardens, orchards, and groves, and is not a forest bird but is frequently seen in the open country, especially in the autumn and winter. In its general habits it is sprightly and active, and being an incessant songster is a favourite cage bird. It feeds chiefly on seeds, especially those of the thistle and other weeds, but the young are generally fed on insects. Its call-note is a sharp *pick, pick, pickelmik*, and its song though agreeable is not so good as that of the Linnet. It breeds in May, building a very neat cup-shaped nest of moss, lichens, and fine roots carefully lined with plant-down and horsehair, usually placed on a low tree or a bush. The eggs 4 to 5 in number are greenish white with faint reddish shell-markings, and dark reddish brown blotches and streaks, which are more numerous at, and often form a zone round, the larger end. In size they average about 0·7 by 0·48.

The Goldfinch is subject to some variation, the best known being the white-chinned variety, or so-called "Cheverel" (cf. Newton, *l.c.*).

405. ASIATIC GOLDFINCH.

CARDUELIS CANICEPS.

Carduelis caniceps, Vigors, P.Z.S. 1831, p. 23; Gould, Centr. Himal. B. pl. 33, fig. 1; Tacz. F. O. Sib. O. p. 635; Oates, F. Brit. Ind. Birds, ii. p. 225; Sharpe, Cat. B. Br. Mus. xii. p. 189; Dresser, ix. p. 177, pl. 670; *C. orientalis* (Eversm.) Add. Pall. Zoogr. fasc. ii. p. 9 (1841); Gould, B. of Asia. v. pl. 17.

Shira, Hindu.; *Saira*, Kashm.;

♂ *ad.* (Siberia). Differs from *C. elegans* in having the upper parts paler and greyer, in lacking the black on the head, the hind-crown and nape being like the back in colour, and there is a broad white line on the inner secondaries. Culmen 0·65, wing 3·3, tail 2·2, tarsus 0·6 inch.

Hab. Siberia from Krasnoyarsk to Lake Baikal (where it is of rare occurrence); Transcaspia, Afghanistan, Turkestan, and the Himalayas.

In habits it does not differ from *C. elegans* and nothing is known respecting its nidification. Where it meets *C. elegans* or rather its eastern form (*C. major*), which is rather larger and whiter, the two species appear to interbreed freely.

PROCARDUELIS, Hodgs., 1844.

406. Nepal Rose Finch.

PROCARDUELIS NEPALENSIS.

Procarduelis nipalensis, (Hodgson), As. Research. xix. p. 157 (1836); Sharpe, Cat. B. Br. Mus. xii. p. 182; Oates, F. Brit. Ind. Birds, ii. p. 223; Bianchi and Berezovski, Ptitz. Gan-su, p. 133.

Ka-biya, Lepch.

♂ *ad.* (Sikhim). Forehead and fore-crown deep rosy red; upper parts, wings, tail, and breast blackish brown tinged with red, the breast-feathers with rosy vinaceous margins; supercilium, chin, throat, and abdomen rosy red; flanks dark brown tinged with red; under tail-coverts dark brown margined with pale pink; bill dusky, paler below; legs fleshy brown; iris dark brown. Culmen 0·5, wing 3·55, tail 2·6, tarsus 0·85 inch. The female has the upper parts, wings, and tail brown, the feathers more or less margined with ochraceous, the under parts, sides of head and neck ochraceous brown.

Hab. Himalayas from Kashmir to Bhutan at elevations of from 6,000 to 10,000 feet, according to season; South-west Kan-su.

It is said to be usually found in small flocks and is not shy. Nothing appears to be on record respecting its nidification. *Procarduelis rubescens*, Blanf., is also said to occur in S.W. Kan-su.

CHRYSOMITRIS, Boie, 1828.

407. Siskin.

CHRYSOMITRIS SPINUS.

Chrysomitris spinus, (Linn.) Syst. Nat. i. p. 322 (1766); (Naum.) v. p. 155, Taf. 125; (Hewitson), i. p. 198, pl. l. fig. 2; (Gould), B. of E. iii. pl. 197; id. B. of Gt. Brit. iii. pl. 37; (Newton), ii. p. 126; Dresser, iii. p. 541, pl. 169; Sharpe, Cat. B. Br. Mus. xii. p. 212; Saunders, p. 175; (Lilford), iv. p. 55, pl. 27.

Tarin, French; *Lugne*, Portug.; *Lugano*, Span.; *Lucarino*, Ital.; *Zeisig*, German; *Sijsje*, Dutch; *Grönsidsken*, Dan.; *Sisik*, Norw.; *Grönsiska*, Swed.; *Viheriävarpunen*, Finn.; *Tschij*, Russ.

♂ *ad.* (Scotland). Upper parts dull yellowish green streaked with blackish brown; upper tail-coverts yellow except those nearest the tail which are greenish; crown, chin, and lores black; wings black, the quills margined and the wing-coverts tipped with yellow; tail-feathers yellow at the base and on the inner webs, the middle pair nearly all black, all the rest black towards the tips; sides of the head, supercilium, throat, and breast yellow; rest of the under parts dull white, streaked with blackish, the lower breast washed with yellow, the flanks with grey; bill dark brown, pale fleshy at the base; legs dull brown; iris dark brown. Culmen 0·45, wing 2·8, tail 1·85, tarsus 0·5 inch. The female is duller in colour, the black on the crown and throat are wanting.

Hab. Europe, as far north as, but rare in, southern Lapland; Asia as far east as Japan, ranging south through Manchuria to China, but not so far as India; of somewhat rare occurrence in N.W. Africa in winter.

Frequents woods, chiefly those of conifers, and affects hilly localities. In its habits it is sprightly and lively but not shy. In winter it frequents groves, gardens, and fields, and is then seen in large flocks. Its food consists of seeds, especially those of conifers, and of various weeds, but the young when in the nest are fed with insects. Its call-note is a loud *deedel*, or *deedlee*, and its song, a succession of twittering notes, though not loud, is fairly melodious. It breeds from April to June, placing its nest on a conifer tree, often at a considerable altitude, but sometimes on a bush, always well concealed. The nest is neat, cup-shaped, constructed of grass-bents, fine twigs, rootlets, and moss, carefully lined with plant-cotton, and occasionally a few feathers. The eggs 4 to 5, sometimes 6 in number, are pale sea-green spotted with pale red, the markings being usually more profuse at the larger end, and in size average about 0·68 by 0·48.

408. HIMALAYAN SISKIN.

CHRYSOMITRIS SPINOIDES.

Chyrsomitris spinoides (Vigors), P.Z.S. 1831, p. 44; (Gould), Cent. Him. B. pl. 33, fig. 2; Sharpe, Cat. B. Br. Mus. xii. p. 201; (Oates) F. Brit. Ind. Birds, ii. p. 231.

♂ *ad.* (Himalayas). Crown, nape, and back deep chocolate; rump yellow; quills blackish, the secondaries with greyish margins; primaries with the base of outer web yellow forming a large speculum; larger wing-coverts deep chocolate tipped with yellow; median coverts yellow, lesser ones deep chocolate; middle tail-feathers blackish, the outer ones yellowish on outer web, white on the inner, broadly tipped with black; ear-coverts and a long streak from the base of the lower mandible deep chocolate; supercilium, lores, throat, and a band nearly meeting on the nape, together with the entire under parts bright yellow; bill fleshy, dusky at tip; legs brownish fleshy; iris brown. Culmen 0·4, wing 3·2, tail 1·10, tarsus 0·65 inch. The female is much duller, has less yellow in the plumage, and the dark upper parts are tinged with green.

Hab. Himalayas from Kashmir to Sikhim; Manipur; east to Szechuen.

Inhabits the mountains up to about 9,000 feet. It breeds in July or August, its nest being placed on the branch of a tree, and constructed of fine grass, hair, and moss, and its 3 eggs are pale green speckled with black, and measure about 0·69 by 0·52.

409. TIBETAN SISKIN.

CHRYSOMITRIS THIBETANA.

Chrysomitris thibetana, Hume, Ibis, 1872, p. 107; Sharpe, Cat. B. Br. Mus. xii. p. 226, pl. iii; Oates, F. Brit. Ind. Birds, ii. p. 232.

♂ *ad.* (Sikhim). Upper parts olive-green, the back and scapulars streaked with blackish; ear-coverts, and a broad moustachial streak olive-green; supercilium, below the eye joining the supercilium behind the ear-coverts, and under parts generally dull yellow, the flanks greener and streaked with brown. Culmen 0·4, wing 2·7, tail 1·6, tarsus 0·5 inch. The female has the under parts pale yellow and is streaked with brown.

Hab. The Himalayas in the interior of Sikhim on the borders of Tibet.

Inhabits high elevations, but I find no record of its habits or nidification.

410. CITRIL FINCH.

CHRYSOMITRIS CITRINELLA.

Chrysomitris citrinella (Linn.), Syst. Nat. i. p. 320 (1766); (Naum.) v. p. 148, pl. 124, figs. 3, 4; (Gould) B. of E. iii. pl. 198; Dresser, iii. p. 535, pl. 168; Sharpe, Cat. B. Br. Mus. xii. p. 230.

Venturon alpin, French; *Venturone*, Ital.; *Citronenzeisig*, German.

♂ *ad.* (Baden). Crown, space round the bill as far as the eye, throat, under parts, rump, and upper tail-coverts yellowish apple-green; nape, hind-neck and its sides slaty blue; back dull green, with dusky streaks; wings and tail blackish externally with narrow yellow margins, the former with a greenish yellow band across; flanks slaty grey; bill dark purplish blue; legs fleshy brown; iris dark brown. Culmen 0·4, wing 3·15, tail 2·45, tarsus 0·6 inch. The female is rather duller, has less yellow on the head, the back is brownish grey, and the under parts paler, the breast slaty blue intermixed with apple-green.

Hab. The mountains of central and southern Europe, not occurring in Great Britain, wintering at lower levels; is said to occur, though rarely, in Algeria.

In habits it much resembles the Siskin, and like that species affects conifer in preference to deciduous trees, and its nest is almost always placed on a fir-tree. Its flight resembles that of the Goldfinch, but it is swifter. Its usual note is a somewhat melancholy twitter, but its song is clear and sweet somewhat resembling that of the Siskin. It feeds almost entirely on small seeds. Its nest, which is usually placed on the bough of a fir-tree is rather larger than, but not quite so neat as that of the Serin Finch, is constructed of rootlets, grass-bents, and moss, neatly lined with very fine rootlets intermixed with a little thistle-down and wool. The eggs, 4 to 5 in number, are white with a blue-green or sea-green tinge, sparingly marked with a pale red shell- and a dark red surface-blotch or dot or two, but have a wreath of pale red and reddish brown spots round the larger end, and resemble small eggs of the Goldfinch, in size averaging about 0·65 by 0·48.

411. SUBSP. CHRYSOMITRIS CORSICANA.

Chrysomitris corsicana, Koenig, Orn. Monatsber. vii. p. 120 (1899); *C. citrinella*, Dresser, p. 536, pl. 167 (nec. Linn.)

♂ *ad.* (Corsica). Differs from *C. citrinella* in having the back pale brown (not green) striped with dark brown, the rump greener, and the under parts yellow.

Hab. Corsica.

This form which I described as the winter dress of *C. citrinella* is, as I subsequently ascertained, fairly separable from that species. Dr. Koenig met with it in April in Corsica, but I find no account of its habits or nidification which probably do not differ from those of *C. citrinella.*

SERINUS, Koch, 1816.

412. SERIN FINCH.

SERINUS HORTULANUS.

Serinus hortulanus, Koch, Baier. Zool. p. 229 (1876); Gould, B. of Gt. Brit. iii. pl. 38; Dresser, iii. p. 549, pl. 172; Saunders, p. 177; *Fring. serinus*, Linn. Syst. Nat. i. p. 320; Naum. v. p. 114, pl. 123; (Sharpe), Cat. B. Br. Mus. xii. p. 368; Lilford, iv. p. 52, pl. 25.

Serin, French; *Milheira*, Portug.; *Verdecillo*, Span.; *Verzellino*, Ital.; *Girlitz*, German; *Gulirisk*, Dan.

♂ *ad*. (Germany). Forehead, supercilium, throat, and breast bright yellow; hind-crown, nape, and sides of head blackish grey margined with yellow; back, scapulars, and wing-coverts brown, slightly margined with yellow and with blackish central stripes; rump and upper tail-coverts yellow; quills and tail blackish brown narrowly margined with yellow; under parts yellow, the lower abdomen and under tail-coverts faint yellowish white; sides of breast and flanks striped with blackish brown; bill dark horn, paler at the base below; legs brownish flesh; iris dark brown. Culmen 0·32, wing 2·8, tail 2·05, tarsus 0·6 inch. In the winter the yellow on the head is obscured by greyish brown tips to the feathers, the back is less yellow and the quills have broader buffy yellowish white margins. The female has less yellow in the plumage; the crown, sides of head and nape are like the back; rump yellow marked with blackish brown, the margins to the quills and tips of the wing-coverts are buffy white; under parts dull white, throat and breast washed with yellow, and together with the flanks striped with blackish brown.

Hab. Central and southern Europe, of rare occurrence in Great Britain, Denmark, and Heligoland; wintering, and to some extent resident in north Africa; Palestine, and Asia Minor.

Unlike the Citril Finch, the Serin inhabits the foot of the mountains skirting the plains, orchards, vineyards, and gardens, and though tolerably tame in the town-gardens, it is shy outside in the country. Its flight is very swift not unlike that of *Cotile riparia*; its call-note resembles that of the Canary bird, but its song is clear and pleasing though not of a high order. It feeds chiefly on seeds, especially those of an oily nature. The nest is neat, compact, cup-shaped, constructed of fine roots and grass-bents, lined with plant-down, feathers, and hair, and is placed on a bush or tree, most frequently a fruit-tree. The eggs 4 to 5 in number resemble those of the Goldfinch, but the blotches are not so dark and more spread out, and they are smaller, averaging about 0·65 by 0·49.

413. TRISTRAM'S SERIN.

SERINUS CANONICUS.

Serinus canonicus, Dresser, B. of E. iii. p. 555, pl. 171 ; Sharpe, Cat. B. Br. Mus. xii. p. 372 ; *S. aurifrons*, (nec. Blyth), Tristram, P.Z.S. 1864, p. 447 ; id. Ibis, 1868, p. 207, pl. vii.

♂ *ad.* (Palestine). Differs from *S. hortulanus*, in being larger, much paler and yellower, the under parts unstriated, the forehead, forepart of the crown and a collar on the hind-neck rich golden yellow ; under parts bright yellow, fading to dull white on the under tail-coverts, unstriped ; bill, legs, and iris as in *S. hortulanus.* Culmen 0·4, wing 3·0, tail 2·4, tarsus 0·6 inch. The female is paler and duller, and the young of the year differs from the adult in having the yellow colour replaced by rich russet, the golden yellow on the forehead being absent.

Hab. Palestine, where it is resident, and possibly Syria.

Inhabits the mountains, being common above 4,000 feet both on Lebanon and Hermon. In habits it is said to resemble the Siskin as also in its note, and its song is described as being varied and clear. In the summer it inhabits the mountains as high as the bush-zone extends, descending in the winter to the edge of the snow-line, and there collects in flocks and is very wild and shy. Its nest, which is conspicuously placed in the fork of a tall shrub, resembles that of the Goldfinch, but is shallower and not so neat. The eggs, from 4 to 6 in number, are deposited in May, and resemble those of the Serin but are larger, averaging about 0·73 by 0·50. It is just possible that Bonaparte's *Serinus syriacus* (Consp. i. p. 523) may have been an immature bird of this species, but the description is too vague for identification, and the specimen appears to be no longer in existence.

414. CANARY BIRD.

SERINUS CANARIUS.

Serinus canarius (Linn.), Syst. Nat. i. p. 321 (1766) ; (Webb and Berth.), Orn. Canar. p. 21, pl. 2 ; Dresser, iii. p. 557, pl. 172 ; Sharpe, Cat. B. Br. Mus. xii. p. 370.

♂ *ad.* (Teneriffe). Differs from *S. hortulanus* in being somewhat larger, in lacking the rich yellow on the head, the crown and sides of the head being apple-green finely striped with blackish brown; rump apple-green with scarcely perceptible stripes; under parts golden yellow fading to whitish on the lower abdomen and under tail-coverts, the flanks only striped with dull blackish brown; bill and legs fleshy brown; iris brown. Culmen 0·38, wing 2 9, tail 2·55, tarsus 0·72 inch. The female has much less greenish yellow in the plumage, the crown is grey striped with blackish, slightly tinged with apple-green, and the under parts buffy white washed with apple-yellow on the throat, breast, and middle of the abdomen.

Hab. The Canaries, Azores, and Madeira; has occurred in England, but specimens obtained were probably escaped cage-birds.

In general habits it resembles the Serin and frequents wooded districts, especially pine-woods, vineyards, and gardens. Its flight resembles that of the Linnet, and the bird flies from tree to tree at no great altitude. Its food consists of seeds of various kinds, tender shoots of plants, and fruit, especially figs. It is generally found near water, that being a necessity to this species. Its song resembles that of its caged descendants but is scarcely so rich. It is a resident passing the winter at lower altitudes than in the summer. Nidification commences in March and the nest is placed in a tree, seldom less than 8 feet from the ground and carefully concealed. It is neatly constructed of dry grass-stems, plant-cotton, and moss. The eggs, from 4 to 5 in number, are pale sea-green or pale blue spotted and marked with reddish brown, and measure about 0·77 by 0·54. Three and even four broods are said to be reared in a season.

415. RED-FRONTED FINCH.

SERINUS PUSILLUS.

Serinus pusillus (Pall.), Zoogr. Ross. As. ii. p. 18, Tab. xliii. (1811); Dresser, iii. p. 561, pl. 173; Sharpe, Cat. B. Br. Mus. xii. p. 373; (Oates) F. Brit. Ind. Birds, ii. p. 230; *S. aurifrons* (Blyth), J.A.S. Beng. xvi. p. 476 (1847).

Malinovka, Russ.

♂ *ad.* (Asia Minor). Forehead and fore-crown bright flame red, the rest of the head and entire throat to the upper breast black, the hind crown washed with brown; upper parts, wings, and tail black, the feathers margined with buffy white or pale yellow; rump bright orange; under parts pale yellow fading into yellowish white on the under tail-coverts, and striped with black; bill and legs black; iris dark brown.

Culmen 0·32, wing 2·82, tail 2·1, tarsus 0·85 inch. The female resembles the male but is duller and the red frontal patch is smaller. The young bird has the head brown streaked with blackish, the forehead tinged with dull orange and the throat and breast-feathers broadly margined with yellowish white.

Hab. Asia Minor, the Caucasus, Transcaspia, northern Persia, Afghanistan, and Turkestan; wintering in southern Asia Minor, Palestine, and the lower slopes of the Himalayas.

In habits and song it resembles the Serin but its note is rather weaker and like that species it feeds principally on seeds. As a rule it is rather shy. It breeds usually at an elevation of from 3,000 to 5,000 feet, the nest being usually placed in a juniper tree. It is a rather larger structure than that of the Serin from which it differs, being built of fine bents intermixed with grey lichens, and warmly lined with soft feathers. The eggs, from 4 to 5 in number, closely resemble those of the blue variety of *S. canarius* being pale bluish minutely and somewhat sparingly dotted with pale red, and measure about 0·65 by 0·51.

LIGURINUS, Koch, 1816.

416. GREENFINCH.

LIGURINUS CHLORIS.

Ligurinus chloris (Linn.), Syst. Nat. i. p. 304 (1766); (Naum.) v. p. 62, Taf. 120, figs. 1, 3; (Hewitson) i. p. 204, pl. lii. fig. 1; (Gould) B. of E. iii. pl. 200; id. B. of Gt. Brit. iii. pl. 39; Newton, ii. p. 105; Dresser, iii. p. 567, pl. 174; (Sharpe) Cat. B. Br. Mus. xii. p. 21; Saunders, p. 169; Lilford, iv. p. 50. pl. 24; *Chloris chlorotica*, (Cab.) Mus. Hein. i. p. 158 (1850); Sharpe, tom. cit. p. 26.

Verdier ordinaire, French; *Verdilhão*, Portug.; *Verdon*, Span.; *Verdone*, Ital.; *Grünling*, German; *Groenling*, Dutch; *Grönirisk*, Dan.; *Svenske*, Norweg.; *Grönfink*, Swed.; *Vihertävä-varpunen*, Finn.; *Zelenouschka*, Russ.

♂ *ad.* (England). Crown, nape, and upper parts ashy grey marked with apple-green; forehead, space above the eye and rump greenish golden yellow; wings and tail blackish the basal outer web of primaries broadly margined with bright yellow, and edge of wing bright yellow; secondaries and wing-coverts margined and tipped with slate-grey; basal half of outer tail-feathers yellow, all rectrices being margined with slate-grey ; lores blackish ; under parts greenish yellow, the flanks and lower abdomen slaty grey, the lower breast and middle of abdomen bright yellow ; bill dull reddish brown, darker at the tip and paler at the base below ; legs fleshy wood-brown ; iris hazel. Culmen 0·5, wing 3·55, tail 2·5, tarsus 0·7 inch. The female is less brightly coloured, and less marked with yellow.

Hab. Europe as far north as Sundsvall in Sweden ; accidental in Madeira ; east as far as Persia and north-western Turkestan, wintering in north-west Africa.

Inhabits groves, the outskirts of forests, gardens, and cultivated places, and unless protected is somewhat shy. It feeds chiefly on seeds, but will eat berries and insects. It is not a true migrant but a wanderer in the autumn and winter. Its flight is strong, resembling that of a sparrow. Its call-note is a harsh and prolonged *schäär* and its song is not of a high order. Nidification commences in April and the eggs are deposited in May, a second brood being often raised in the season. The nest is placed in a hedge, on a bush or a tree, and is a fairly neat structure of grass-bents, rootlets, moss, and wool, lined with similar but finer materials, and the eggs 4 to 6 in number are white with a faint sea-green tinge, sparingly marked with pale purplish red shell- and deep red surface-spots and blotches, averaging about 0·8 by 0·6, and the markings are usually more numerous at the larger end.

Specimens from the southern portion of its range are rather brighter in coloration and extremely bright varieties from Palestine and Syria have been separated under the name *L. chloroticus* and intermediate varieties from Algeria under that of *L. aurantiiventris* (Cab.) Mus. Hein. i. p. 158, but after a careful comparison of a series I cannot acknowledge either, even as a subspecies.

417. CHINESE GREENFINCH.

LIGURINUS SINICUS.

Ligurinus sinicus (Linn.), Syst. Nat. i. p. 321, (1766) ; (David and Oust.) Ois. Chine, p. 338 ; (Sharpe), Cat. B. Br. Mus. xii. p. 26 ; (Tacz.) F. O. Sib. O. p. 629 ; (Seebohm), B. Jap. Emp. p. 127.

Kawarahiwa, Jap.

♂ *ad.* (Japan). Differs from *L. chloris* in having the crown ashy grey with an olive tinge darker on the forehead, the upper parts chocolate-brown washed with olive-yellow, the yellow wing-patch much larger, most of the secondaries with the outer web ashy white, golden yellow at the base and all the quills tipped with greyish white; breast and sides pale chocolate-brown washed with ashy grey; middle of abdomen and under tail-coverts bright yellow; beak reddish white; legs deep reddish grey; iris chestnut. Culmen 0·45, wing 3·0, tail 1·67, tarsus 0·66 inch. The female is much duller and browner in colour.

Hab. The Amoor and and Ussuri countries and the island of Askold in eastern Siberia; Mongolia, China, Corea, and Japan.

In habits it appears to assimilate closely with *L. chloris*, but its song is said to be inferior to that of that species. It places its nest on trees, usually conifers, and deposits in May or June 3 to 5 eggs. A specimen was obtained near Copenhagen in in 1893, but was probably an escaped cage bird.

418. SUBSP. LIGURINUS KAWARAHIBA.

Ligurinus kawarahiba (Temm. and Schlegel), Faun. Jap. Aves, pl. 48; (Sharpe), Cat. B. Br. Mus. xii. p. 28; (Seebohm), B. Jap. Emp. p. 127.

Kawarahiwa, Jap.

♂ *ad.* Differs from *L. sinicus* merely in being somewhat larger in size and duller in colour. Culmen 0·45, wing 3·25, tail 2·05, tarsus 0·75 inch.

Hab. Japan.

In habits and nidification it does not differ from *L. sinicus* and indeed is scarcely separable, even subspecifically, from that species.

EOPHONA, Gould, 1851.

419. JAPANESE GROSBEAK.

EOPHONA PERSONATA.

Eophona personata (Temm. and Schlegel), Faun. Jap. Aves, pl. 52, (1850); Gould, B. of Asia, v. pl. 18; David and Oust. Ois. Chine, p. 346, pl. 91; Sharpe, Cat. B. Br. Mus. xii. p. 30; Tacz. F. O. Sib. O. p. 622.

Ou-toung, Chinese.

♂ *ad.* (Japan). Upper parts ashy grey, tinged with drab on the mantle ; crown nearly to the nape and a narrow band round the base of the bill extending to the eye, wings, and tail glossy steel black ; a white band across the wing ; under parts pale drab ashy grey, paling to white on the under tail-coverts ; bill yellow ; legs reddish grey ; iris hazel. Culmen 0·92, wing 4·55, tail 3·15, tarsus 0·9 inch.

Hab. Eastern Siberia (the Ussuri country), Japan, and Western China.

Frequents bush-covered localities in the mountains and the borders of the forests, where it is generally seen in the tops of the trees. It has a strong flight and in the winter roams about in small companies. It feeds on seeds, fruits, and berries, and is very partial to haricot beans, and will even steal them from the granaries. Its song is described as being melodious and pleasing. It nests in the Ussuri country in June, but its nest and eggs are, so far as I can ascertain, undescribed.

420. CHINESE GROSBEAK.

EOPHONA MELANURA.

Eophona melanura (Gmel.), Syst. Nat. i. p. 853 (1788) ; (Jard. and Selby) Ill. Orn. ii. pl. 63 ; David and Oust. Ois. Chine, p. 347, pl. 92 ; Sharpe, Cat. B. Br. Mus. xii. p. 28 ; Tacz. F. O. Sib. O. p. 624.

Hou-eull, Chinese.

♂ *ad.* (Corea). Differs from *E. personata* in having the upper parts browner, fading to ashy white on the rump, the black on the head extends over the sides of the face, cheeks, ear-coverts and throat ; wings lacking the broad white band, but with a small white speculum, the primaries narrowly, the secondaries broadly tipped with white ; bill yellow, at the tip green ; legs pale flesh yellow ; iris reddish. Culmen 0.75, wing 3·8, tail 2·7, tarsus 0·75 inch. The female lacks the black on the head, that part and the throat being ashy drab brown, and is duller and browner in colour.

Hab. Eastern Siberia, North China, and Corea, wintering in Central and Southern China.

Frequents open places in oak-woods, and is shy and wary. Its song is said to be good but inferior to that of *E. personata.* It breeds in the Ussuri country, but its nest and eggs are unknown.

COCCOTHRAUSTES, Briss., 1760.

421. HAWFINCH.

COCCOTHRAUSTES VULGARIS.

Coccothraustes vulgaris, Pall. Zoogr. Ross. As. ii. p. 12 ; Gould, B. of E. iii. pl. 199 ; id. B. of Gt. Brit. iii. pl. 40 ; Hewitson, i. p. 205, pl. lii. ; figs. 2, 3 ; Newton, ii. p. 98 ; Dresser, iii. p. 575, pl. 175 ; Saunders, p. 171 ; Lilford, iv. p. 46, pl. 23 ; *Loxia coccothraustes*, Linn. Syst. Nat. i. p. 299 ; (Naum.), iv. p. 435 ; Taf. 114 ; (Sharpe), Cat. B. Br. Mus. xii. p. 36 ; *C. japonicus*, Sharpe, tom. cit. p. 39 ; *C. humii*, id tom. cit. p. 40, pl. i. (1888).

Grosbec, French ; *Bico-grossudo*, Portug. ; *Cascanueces*, Span. ; *Frosone*, Ital. ; *Kernbeisser*, German ; *Appelvink*, Dutch ; *Kjernebider*, Dan. ; *Kirsebœrfugl*, Norw. ; *Stenknäck*, Swed. ; *Nokkavarpunen*, Finn. ; *Dubonos*, Russ.

♂ *ad.* (Spain). Forehead yellowish fawn, becoming brownish on the hind-crown ; a collar round the hind-neck ashy grey ; mantle dark chestnut-brown ; rump fawn-brown ; quills glossy blue-black, with a long white patch on the inner web ; the inner ones after the fifth peculiarly widened and hooked at the tip ; larger coverts white, darkening to fawn on the innermost ; middle tail-feathers greyish brown, tipped with white, the rest black, with the terminal half of the inner web white ; lores, a narrow line at the base of the bill, and throat deep black ; under parts vinous fawn, middle of abdomen and under tail-coverts white ; bill bluish ; legs flesh colour ; iris brownish grey. Culmen 0·85, wing 3·9, tail 2·5, tarsus 0·9 inch. In the winter the colours are duller, and the beak dull flesh-colour. The female is duller, the black on the throat less extensive, and the white on the wings tinged with dull greyish. The young bird has the head yellowish brown, the upper parts yellowish chestnut-brown, the throat and under parts dull white, on the throat washed with yellow, all spotted and barred with blackish brown.

Hab. Europe, as far north as Southern Sweden and occasionally to Upland ; in Norway to Trondhjem ; Asia Minor, Persia, N.W. Punjab, Turkestan, and as far east as Japan ; North Africa rarely.

Frequents groves, especially hornbeam woods, gardens, and orchards, and is extremely shy and wary, usually perching in the top of a tree, from whence it can see all round. Its flight, though laboured, is swift and direct, and it can traverse long distances. Its call-note is a prolonged *zee*, and its song is merely a repetition and variation of the call-note and a sharp call resembling the syllable *knipps* with modulations. It feeds on hard-shelled seeds or fruits, beech nuts, conifer seeds, etc., and is very partial to peas and the kernels of cherry stones. The young are, however, fed chiefly on caterpillars. The nest is placed on a fruit tree, an oak, or often on a hornbeam, thorn, or holly, and is built of twigs, grass-bents, and rootlets. The eggs, from 4 to 6 in number, are dull greenish grey or pale olivaceous, marked with purplish underlying shell-blotches, and brown surface-spots, blotches, and lines, and measure about 0·92 by 0·69.

PYCNORHAMPHUS, Hume, 1874.

422. WHITE-WINGED GROSBEAK.

PYCNORHAMPHUS CARNEIPES.

Pycnorhamphus carneipes (Hodgson), As. Research. v. p. 276, xix. p. 151 (1836); (Gould), B. of As. v. pl. 21; Sharpe, Cat B. Br. Mus. xii. p. 47; Oates, F. Brit. Ind. Birds, ii. p. 200; (Dresser), ix. p. 179, pl. 671; *B. speculigerus* Brandt. Bull. Acad. St. Petersb. ix. p. 11 (1842).

♂ *ad.* (Transcaspia). Head, neck, breast, upper abdomen, mantle, wings, and tail deep black; rump and rest of under parts greenish yellow; a white patch on the wing; inner secondaries and inner larger coverts with the ends greenish yellow; upper mandible brownish, the lower whitish horn; legs pale fleshy brown; iris hair-brown. Culmen 0·7, wing 4·8, tail 4·0, tarsus 1·1 inch. The female is duller and greyer, the black being replaced by ashy brown, the cheeks, throat, and breast striated with dull white.

Hab. Transcaspia, Afghanistan, Turkestan, Mongolia, and the Himalayas east to Szechuen, and is resident.

It inhabits the mountains, usually above 8,000 feet but sometimes as low as 5,000 feet, and frequents the conifer groves and juniper thickets, and feeds on seeds and berries, especially those of the juniper. Its flight is strong and noisy but not sustained, and its call-note which is usually uttered when the bird is on the wing, resembles the syllables *tyou-déric* uttered jerkily; when wounded or captured it utters loud, harsh, cries. Nothing is as yet known respecting its nidification.

423. ALLIED GROSBEAK.

PYCNORHAMPHUS AFFINIS.

Pycnorhamphus affinis (Blyth), J. A. S. Beng. xxiv. p. 179 (1855); (Gould), B. of As. v. pl. 23; (David and Oust.), Ois. Chine, p. 345; Sharpe, Cat. B. Br. Mus. xii. p. 46; Oates, F. Brit. Ind. Birds, ii. p. 199.

♂ *ad.* (Sikhim). Head, neck, wings, back, and tail, and upper tail-coverts glossy black, the middle of the back marked with yellow ; rest of the plumage deep rich yellow, often orange-yellow ; bill horny blue ; legs fleshy yellow. Culmen 0·85, wing 4·95, tail 3·75, tarsus 1·0 inch. The female has the head and upper neck slate-grey, the back and broad margins to the secondaries olive-green ; wings and tail black ; rump lower neck and under parts apple-green.

Hab. High elevations in the mountains of Nepal and Sikhim, Tibet, and Western China.

I find nothing on record respecting the habits or nidification of this species, which is closely allied to *P. icteroides*, which inhabits the western Himalayas, differing in having the thighs yellow instead of black, and the back marked with yellow.

PASSER, Briss., 1760.

424. HOUSE SPARROW.

PASSER DOMESTICUS.

Passer domesticus (Linn.), Syst. Nat. i. p. 323 (1766) ; (Naum.) iv. p. 253 ; Taf. 115 ; Hewitson, i. p. 209, pl. liii. figs. 3, 4 ; (Gould), B. of E. iii. pl. 184 ; id. B. of Gt. Brit. iii. pl. 32 ; Newton, ii. p. 89 ; Dresser, iii. p. 587, pl. 176, fig. 1 ; Sharpe, Cat. B. Br. Mus. xii. p. 307 ; Oates, F. Brit. Ind. Birds, ii. p. 236 ; Saunders, p. 179 ; Lilford, iv. p. 42, pl. 21.

Moineau domestique, French ; *Pardal*, Portug. ; *Gorrion*, Span. ; *Haussperling*, German. ; *Musch*, Dutch. ; *Graaspurv*, Dan. and Norw. ; *Hussparf*, Swed. ; *Kotivarpunen*, Finn. ; *Domaschnik-vorobey*, Russ. ; *Gouriya*, *Churi*, Hind.

♂ *ad.* (Turkey). Crown, nape, lower back, rump, and upper tail-coverts ashy grey, the latter tinged with brown ; lores black ; a broad streak on the side of the head joining and broadening on the hind-neck chestnut-red ; mantle chestnut, varied with sandy ochreous and streaked with black ; wings and tail blackish margined with rufous, rufous buff, and greyish buff ; a white band across the wing ; sides of the head and of the neck white ; chin and throat deep black ; rest of the under parts greyish white, breast and flanks washed with ashy grey, and abdomen and under tail-coverts faintly tinged with buff ; bill black ; legs light brown ; iris dark brown. Culmen 0·48, wing 2·9, tail 2·38, tarsus 0·77 inch. In the winter the plumage is duller and the bill brownish grey, the lower mandible fleshy yellow at the base. The female and young lack the black on the throat, have the upper parts dusty brown marked with blackish and dull buff, the under parts brownish ash, darker on the flanks, and the bill, like the male's in winter, but rather paler.

Hab. Europe generally, except in Italy, where it is replaced by *P. italiæ*; Asia Minor, and across Siberia, following the post roads; Persia, India east to Cochin-China, and Ceylon, where it is smaller and paler (*P. indicus* auctt.); N. Africa.

It has been introduced into distant countries as it possibly was into Europe, and has made itself quite at home in New Zealand and the United States, where it is by no means an unmixed blessing.

Eminently gregarious in its habits it is able to adapt itself almost anywhere, and is as much at home in a smoky manufacturing town as it is in the country. It is very omnivorous in its tastes and will feed on almost anything, grain, seed, insects, fruit, refuse cast out of the kitchen, &c., &c., but the young are fed on caterpillars and larvæ. Its note is a lively chirp, and it has no regular song. The nest is rather a bulky structure of grass-bents, straw, moss, &c., well lined with feathers or any soft material, and is placed on a branch, in the hole of a tree or wall, amongst ivy, under the eaves of a roof or any other suitable place; the eggs, usually from 4 to 6 in number, are greyish white more or less marked with grey shell- and brownish black or greyish black surface-spots and blotches, in size averaging about 0·88 by 0·61. Two, three, or even four broods are reared in the season.

425. Italian Sparrow.

PASSER ITALIÆ.

Passer italiæ (Vieill.), Nouv. Dict. xii. p. 199; Dresser, iii. p. 585, pl. 176, fig. 2; Sharpe, Cat. B. Br. Mus. xii. p. 315; *P. cisalpina* (Temm.), Man. d'Orn. p. 351 (1820); (Gould), B. of E. iii. pl. 185; fig. 2.

Moineau cisalpin, French; *Passera*, Ital.

♂ *ad.* (Genoa). Differs from *P. domesticus* in having the upper parts rather brighter coloured, the cheeks whiter, the entire crown and nape rich chestnut-red, and the under parts rather whiter. Culmen 0·45, wing 3·1, tail 2·45, tarsus 0·78 inch. In the winter the feathers on the crown have dull greyish margins, and the bill is dull yellowish, not black. The female closely resembles the female of *P. domesticus*.

Hab. The mainland of Italy south of the Alps; Corsica; Malta.

In habits and nidification it resembles *P. domesticus*.

426. Spanish Sparrow.

PASSER HISPANIOLENSIS.

Passer hispaniolensis (Temm.), Man. d'Orn, p. 353 (1820) ; Gould, B. of E. iii. pl. 185 ; fig. 1 ; Dresser, iii. p. 593, pl. 177 ; Sharpe, Cat. B. Br. Mus. xii. p. 317 ; Oates, F. Brit. Ind. Birds, ii. p. 239 ; *P. salicicola* (Vieill.), Faun. Franc. p. 417 (1828).

Moineau espagnol, French ; *Pardal*, Portug. ; *Gorrion molinero*, Span. ; *Passera sarda*, Ital. ; *Bolotnui-vorobey*, Russ.

♂ *ad.* (Spain). Like *P. italiæ*, it has the head and nape rich chestnut, but the back is much darker and blacker, some of the feathers with white margins ; throat, lower neck, and breast deep black, the flanks broadly streaked with black. Culmen 0·52, wing 3·05, tail 2·45, tarsus 0·85 inch. The female is undistinguishable from that of *P. domesticus*.

Hab. Southern Europe, North Africa, Canaries, and Cape Verde Islands ; Asia Minor, Persia, Turkestan, and India, east to Mirzapore.

Although in its general habits, note, &c., it resembles *P. domesticus*, it differs considerably in its choice of abode for it is not found near houses but inhabits woods and groves, building its nest in trees, and very frequently in the foundations of the nests of the larger birds of prey. The nest resembles that of *P. domesticus*, as do the eggs, but they are as a rule rather paler, and I have never seen dark varieties, which are often found of *P. domesticus*.

427. Afghan Sparrow.

PASSER YATII.

Passer yatii, Sharpe, Cat. B. Br. Mus. xii. p. 322 (1888) : id. Trans. Linn. Soc. 2nd. ser. Zool. v. p. 80, pl. vi. fig. 2.

♂ *ad.* (Persia). Upper parts ashy brown, tinged with buff, slightly marked with fox-red on the larger wing-coverts and scapulars ; crown darker ; wings and tail black, bordered with warm, creamy buff ; the inner secondaries very broadly margined ; a few black stripes on the back ; lesser and median wing-coverts black, the latter broadly margined with creamy white ; larger coverts chiefly fox-red, tipped with creamy white ; lores black, supercilium rufous buff, ear-coverts ashy grey ; throat and fore-neck black, some of the feathers with narrow whitish margins ; under parts pale yellow, the breast and flanks dull ashy ; under tail-coverts warm isabelline. Culmen 0·4, wing 2·5, tail 1·8, tarsus 0·65 inch. The female has the throat white, tinged with sulphur, and no yellow on the under parts.

Hab. Western Afghanistan, and Persia.

Until Mr. Zarudny met with this sparrow in Persia, and found it breeding commonly there, only the type was known. It is closely allied to *Passer moabiticus* Tristr., but differs in having the under parts yellow, not ashy white. The eggs 4 to 6 in number vary considerably, from stone-grey to grey closely marked with warm brown, and occasionally white spotted and blotched chiefly at the larger end with dark brown. In size they measure about 0·72 by 0·52.

428. Saxaul Sparrow.

PASSER AMMODENDRI.

" *Passer ammodendri*, Severtz.," Dode, P. Z. S. 1871, p. 481 ; Gould, B. of As. v. p. 15 ; Sharpe, Cat. B. Br. Mus. xii. p. 337 ; Dresser, ii. p. 183, pl. 672 ; *P. stoliczkæ*, Hume, Str. Feath. ii. p. 516 (1874), *P. timidus*, Prjev. Iz. Zais. Khami and Tibet, pp. 94, 95 (1883), *P. severtzovi*, Pleske, Bull. Ac. Imp. St. Petersb. xiii. p. 282.

Vorobey sacsaulney, Russ.

♂ (Transcaspia). Crown, nape, lores, and a line through and behind the eye deep black, some of the crown-feathers with narrow, faint buff margins ; a broad patch bordering the crown to the nape clear rufous ; upper parts buffy grey, streaked with black ; quills and tail blackish, the former broadly, the latter narrowly margined with dull white ; lesser wing coverts black, broadly tipped with white ; chin and throat deep black, the rest of the under parts white ; bill black ; legs fleshy brown ; iris, chocolate-brown. Culmen 0·5, wing 3·0, tail 2·6, tarsus 0·8 inch. In the autumn the black feathers have greyish buff margins ; and the bill is dusky flesh-yellow, darker at the tip. The female is duller, less streaked with black, and lacks the rufous and black on the head and throat, the crown being buffy grey, faintly streaked with blackish brown, the chin and throat greyish white, tinged with blackish grey along the middle of the throat.

Hab. From Transcaspia and Turkestan to Alaschan and Ordos, wherever the saxaul is found growing.

It prefers sandy or clayey localities, covered with thinly scattered saxaul (Ammodendron) groves, in the vicinity of water, and feeds on the seeds of the saxaul and other plants, small beetles, and small orthopterous insects. Its flight is swift and it often flies at a considerable elevation. Its note resembles that of *P. domesticus* but is shriller. Its nest, like that of *P. domesticus*, is sometimes open, sometimes with the entrance at the side, and is constructed of dry twigs and bents and lined with camels' hair or feathers. It is placed on a saxaul, in the foundation of the nest of a bird of prey, or in a fissure on the steep slope of a sandhill. The eggs from 3 to 5 in number are white with a faint greenish, or sometimes a brownish tinge finely spotted and blotched with warm wood-brown, the markings being more profuse at the larger end; in size they measure about 0·75 by 0·57.

429. RUSSET SPARROW.

PASSER RUTILANS.

Passer rutilans, Temm. Pl. Col. iii. pl. 488, fig. 2 (1835); David and Oust. Ois. Chine, p. 341; Sharpe, Cat. B. Br. Mus. xii. p. 329; Seebohm, B. Jap. Emp. p. 131, *P. russatus*, Temm. and Schlegel, Faun. Jap. Aves, p. 90, pl. 50 (1850).

♂ *ad.* (Japan). Upper parts deep chestnut- or fox-red, slightly striped with black on the upper back and scapulars; wings and tail blackish, the latter margined with warm isabelline; wing-coverts tipped with white; under parts pale ashy brown, becoming nearly white on the lower abdomen; chin and centre of the throat black; sides of the throat and cheeks white; bill black; legs reddish grey; iris chestnut-brown. Culmen 0·5, wing 2·82, tail 2·0, tarsus 0·65 inch. It closely resembles *P. cinnamomeus*, differing only in the absence of yellow on the under parts, and has less white on the wing-coverts. The female lacks the black throat; upper parts brownish grey, more striped on the back; supercilium dull white; throat dull greyish white; rest of the under parts similar, but rather darker on the breast and flanks.

Hab. Japan, North China, and Formosa.

In habits and nidification it is said to resemble *P. domesticus.*

430. TREE-SPARROW.

PASSER MONTANUS.

Passer montanus (Linn.), Syst. Nat. i. p. 324, (1766); (Naum.) iv. p. 480, Taf. 116, figs. 1, 2; Hewitson, i. p. 207, pl. liii. figs. 1, 2; (Gould), B. of E. iii. pl. 184; id. B. of Gt. Brit. iii. pl. 33; Dresser, iii. p. 597, pl. 178; Sharpe, Cat. B. Br. Mus. xii. p. 301; Newton, i. p. 82; Saunders, p. 181; Lilford, iv. p. 44, pl. 22.

Friquet, French; *Gorrion serrano*, Span.; *Passera mattugia*, Ital.; *Feldsperling*, German; *Ringmusch*, Dutch; *Skovspurv*, Dan.; *Pilfinke*, Norw.; *Pilfink*, Swed.; *Ketovarpunen*, Finn: *Polevoi vorobey*, Russ; *Suzume*, Jap.

♂ *ad.* (England). Differs from *P. domesticus* in having the crown, nape, and hind-neck coppery red; a large black patch on each side of the head below the ear, and two distinct white bands across the wing; bill black; legs light brown; iris dark brown. Culmen 0·45, wing 2·8, tail 2·25, tarsus 0·7 inch. In the winter the plumage is a trifle greyer, the black feathers on the throat have whitish edges, and the bill is reddish grey at the base below. The female is slightly duller, the chin and upper throat alone are black, slightly marked with white, and the breast and flanks are washed with brown.

Hab. Europe generally, except in Portugal; Great Britain even to the Outer Hebrides; Sweden common to Upland, thence rarely to 68° 30′ N. Lat.; Norway as far north as east and west Finmark; Asia through Siberia to Japan; Asia Minor, Persia, Turkestan, Afghanistan, the Himalayas to Assam, Burmah, China, and the Malay peninsula and Philippines, to Java; somewhat rare in N. Africa; has been introduced into N. America.

In Europe it is not so often found near habitations as it is in the fields and groves, whereas in the east it takes the place of our House-sparrow, and is found chiefly about human habitations. It is as gregarious as *P. domesticus*, and quite as active and cheerful, though scarcely so noisy. Its note is also similar but somewhat softer and more agreeable, and the male has a regular song. It feeds on seeds of various kinds, chiefly those of noxious weeds, and its young are fed on caterpillars and various kinds of insects. For the purposes of nidification it selects with us the hollow of a tree or a hole in a wall, though in Eastern Asia it builds in preference in a house, usually under the eaves. Its nest resembles that of *P. domesticus* and is also carefully lined with feathers, but is smaller. The eggs resemble those of *P. domesticus* but are, as a rule, darker and smaller measuring about 0·73 by 0·55. Two or even three broods are reared in the season.

431. DESERT-SPARROW.

PASSER SIMPLEX.

Passer simplex (Licht.), Verz. Doubl. p. 24 (1823); Temm. pl. col. iii. pl. 358; Dresser, iii. p. 603, pl. 179; Sharpe, Cat. B. Br. Mus. xii. p. 339; Koenig, J.f.O. 1896, p. 120, tab. vii. fig. 10 (eggs).

♂ *ad.* (N. Africa). Upper parts isabelline grey, the crown greyer; quills brownish grey, towards the ends blackish and tipped with creamy white; secondaries isabelline on the outer web; lesser wing-coverts white; larger coverts blackish, broadly tipped with isabelline; upper tail-coverts creamy white; tail sooty brown, darker towards the tip, and externally margined with isabelline; lores and upper throat black; sides of the neck white; rest of under parts pale, creamy white; bill black; legs dull yellowish horn; iris dark brown. Culmen 0·4, wing 3·1, tail 2·5, tarsus 0·85 inch. The female lacks the black on the lores and throat, and is more isabelline in tinge, not grey. In winter the male has the bill whitish at the base, but otherwise brown.

Hab. Southern Algeria, southern Nubia, N. Kordofan, and Senaar, and the desert between Suakin and Berber.

In habits it resembles the Tree-sparrow, though it does not frequent trees, but is found in the sand desert along the caravan-roads, and wherever there are wells, and feeds on seeds and insects of various kinds. Its nest, which is placed on the timbers, or in a hole in the wall of a well, is bulky, but firmly constructed of halfa-stems, dry grass, wool, rags, and feathers, and the eggs, 3 in number, are usually deposited in April and closely resemble those of *Passer montanus.*

PETRONIA, Kaup, 1829.

432. ROCK-SPARROW.

PETRONIA STULTA.

Petronia stulta (Gmel.), Syst. Nat. i. p. 919 (1788); Dresser, iii. p. 607, pl. 180, fig. 2; *Fringilla petronia*, Linn. Syst. Nat. i. p. 322 (1766); Naum. iv. p. 497, Taf. 116, figs. 3, 4; (Gould), B. of E. iii. pl. 186; (Sharpe), Cat. B. Br. Mus. xii. p. 289; *P. rupestris brevirostris*; Tacz. F. O. Sib. O. p. 620.

Moineau fou, Soulcie French; *Pardal françez,* Portug.; *Gorrion campesino, Chilla,* Span.; *Passera lagia,* Ital.; *Steinsperling,* German; *Rotmusch,* Dutch.

♂ *ad.* (Spain). Centre of crown to nape greyish brown, mottled with dull white, sides of crown and ear-coverts warm, dark brown; supercilium and feathers below the eye buffy white; upper parts dusty wood-brown, the mantle spotted and blotched with blackish brown and buffy white; quills dark brown, margined with buffy white; tail dark brown, narrowly margined with buff, and with large terminal white spots to the feathers; under parts buffy white, faintly streaked with pale brown; on the middle of the throat a clear yellow spot; bill horn-brown, light brown at the base below; legs light brown; iris brown. Culmen 0·5, wing 3·6, tail 2·15, tarsus 0·75 inch. The female and young resemble the male, but the latter is paler, and lacks the yellow spot on the throat.

Hab. Central and southern Europe, Algeria, Madeira, and the Canaries; Asia Minor, and Asia as far east as Mongolia; N. China, Manchuria, and eastern Siberia.

In habits it has much in common with *P. domesticus* but does not frequent houses, being usually met with in wild rocky localities, less frequently in cultivated places. It feeds in the spring and summer on insects, caterpillars, &c., on which its young are sustained, but in the autumn and winter it feeds on fruit, berries, and seeds of various kinds. On the ground it is more active than the House Sparrow, and is swifter on the wing. Its call-note is harsh, and in the spring it utters a sort of song which is, however, but very poor. It places its nest in holes in the rocks, or ground, or in hollow trees, constructing it of straw, grass-bents, fine roots, wool, hair, and rags, lining it well with feathers. The eggs, 4 to 6 or 7 in number, are deposited in May and June, and so closely resemble those of *P. domesticus* that they cannot with certainty be distinguished, but are as a rule somewhat larger.

433. Desert Rock-Sparrow.

PETRONIA BRACHYDACTYLA.

Petronia brachydactyla, Bp. Consp. Gen. Av. i. p. 513 (1850) ; Tristram. Ibis, 1868, pl. 6 ; Dresser, iii. p. 611, pl. 180, fig. 1 ; Sharpe, Cat. B Br. Mus. xii. p. 292.

♂ *ad.* (Persia). Upper parts sandy brown ; under parts white, the throat, breast, and flanks washed with creamy buff ; wings brown, externally margined with pale rufous buff and tipped with creamy white, the wing-coverts margined with creamy white ; tail dark brown all but the middle ones, with a white patch at the end of the inner web, the outermost with the outer web dull white ; lores and supercilium pale sandy ; under tail coverts dull brown, broadly margined with white ; bill horn-brown above, fleshy white below ; legs dull fleshy yellowish ; iris brown. Culmen 0·4, wing 3·5, tail 1·85, tarsus 0·75 inch. Sexes alike.

Hab. Palestine, North-east Africa, Arabia, and Persia.

In habits it resembles *P. stulta* but frequents dry arid plains, and is more of a desert bird, and in the winter is said to frequent stubble-fields, roads, and farm-yards in search of food. Its note is peculiar, resembling that of a large cricket. It breeds in elevated plains where bushes are scattered about, in Persia, at elevations of from 5,000 to 8,000 feet, descending to lower altitudes in the winter. The nest is neat and compact, and is placed low down in a bush, and it deposits 4 to 5 white eggs, which are marked with a few black spots, looking like diminutive eggs of *Oriolus galbula*.

434. YELLOW-THROATED SPARROW.

PETRONIA FLAVICOLLIS.

Petronia flavicollis (Frankl.), P.Z.S., 1831, i. p. 120 ; Sharpe, Cat. B. Br. Mus. xii. p, 293 ; (Oates), F. Brit. Ind. Birds, ii. p. 235.

Raji, *Jangli-churi*, Hind. ; *Adavi-pichike*, Tel.

♂ *ad.* (India). Upper parts generally ashy brown ; quills and tail dark brown, margined with pale buff ; lesser wing-coverts chestnut ; median coverts tipped with white, and larger coverts with pale buff, forming two bars across the wing ; under parts ashy white, the flanks darker, chin nearly white, throat yellow ; bill black ; legs greyish plumbeous ; iris brown. Culmen 0·5, wing 3·25, tail 2·2, tarsus 0·6 inch. The female has the throat-spot much paler, the lesser wing-coverts rufous brown, and the bill brown. The winter plumage is rather browner, and the male has the beak brown.

Hab. Persia, Baluchistan, India from the Himalayas to Travancore and from Sind to the longitude of Midnapore in Bengal; Ceylon.

Frequents thin forest jungle, groves, and gardens, and in its general habits and note resembles the common House-sparrow. It is gregarious and in the winter often collects in tolerably large flocks. It breeds from March to June not strictly in colonies, though a dozen nests may be found in one large tree. The nest is usually placed in a hole in a tree, occasionally in a roof, and is usually only a bundle of dry grass lined with feathers, but sometimes a cup-shaped nest is built, strips of bark and tow being added to the grass, and sometimes it is a closely woven pad of hair, tow, and wool, with a little central hollow lined with a few feathers. The eggs, 3 to 4 in number, are dull and glossless, greenish white closely streaked, smudged, and blotched all over with dingy brown, sepia or chocolate-brown, the markings often quite hiding the ground colour; in size they average about 0·74 by 0·55.

MONTIFRINGILLA, Brehm, 1828.

435. SNOW-FINCH.

MONTIFRINGILLA NIVALIS.

Montifringilla nivalis, Linn. Syst. Nat. i. p. 321 (1766) ; (Naum.), v. p. 4, Taf. 117 ; (Gould), B. of E. iii. pl. 189 ; Dresser, iii. p. 617, pl. 181 Sharpe, Cat. B. Br. Mus. xii. p. 259.

Niverolle, Pinson des neiges, French; *Fringuello alpino,* Ital.; *Schneefink,* German.

♂ *ad.* (Switzerland). Crown and nape clear dark ashy grey, the sides of the head and neck paler; back scapulars and innermost secondaries fulvous brown, with darker centres; rump darker, the upper tail-coverts black; quills and middle rectrices blackish, narrowly tipped with white; wing-coverts and secondaries white; rest of tail-feathers white, all but the outermost tipped with black; under parts white, the chin and middle of the throat deep black; bill and legs black; iris brown. Culmen 0·55, wing 4·55, tail 3·05, tarsus, 0·95 inch. In the winter the black feathers are obscured by white edges, and the bill is yellow with a dark tip. The female has the crown duller, the black patch on the throat smaller, and the under parts duller white.

Hab. The Pyrenees and Alps, ranging east to Palestine.

Frequents sterile, rocky districts high up in the mountains where it runs about amongst the stones in search of food, uttering its call-note *puitt, puitt* or *pitt, pitt,* every now and again taking a short flight and again settling; every now and then it will stand for a moment on any small eminence, slightly spread its wings, flirt its tail, and utter its note. In the winter it descends to lower levels and visits the valleys. Its food consists of insects of various kinds, buds, and seeds. Two broods are usually raised in the season the first eggs being deposited in May, and the second lot in July. The nest is built of dry grass-straws, fine roots, &c., lined with hair, wool, and feathers, and is placed amongst the rocks, and in the buildings of such hospices as are at considerable altitudes, such as the monastery of the Great St. Bernard. The eggs from 4 to 5 in number are pure white averaging about 0·94 by 0·65.

436. SUBSP. MONTIFRINGILLA ALPICOLA.

Montifringilla alpicola (Pall.), Zoogr. Ross. As. ii. p. 20 (1811), Radde, Orn. Cauc. p. 171, pl. viii.; Sharpe, Cat. B. Br. Mus. xii. p. 260; Dresser, ix. p. 187, pl. 673.

Gornyi-Wjurok, Russ.

♂ *ad.* (Erzeroum). Differs from *M. nivalis* in having a longer and more slender bill, and the crown and nape brownish grey instead of ashy grey. Culmen 0·6, wing 4·5, tail 2·9, tarsus 0·95 inch. In the winter the black feathers are obscured by white edges, and the bill is brown, the lower mandible yellowish at the base.

Hab. The Caucasus ranging east through Persia and Afghanistan to eastern Turkestan at altitudes above 10,000 feet in summer, descending to 4,000 to 5,000 feet in winter. In habits, note, and mode of nidification it does not differ from *M. nivalis.*

437. ADAMS' SNOW-FINCH.

MONTIFRINGILLA ADAMSI.

Montifringilla adamsi, Moore, MS. Adams, P.Z.S. 1858, p. 482., 1859, p. 178, pl. 156 ; Gould, B. of As. v. pl. 1 ; David and Oust. Ois. Chine, p. 547 ; Sharpe, Cat. B. Br. Mus. xii. p. 261 ; Oates, F. Brit. Ind. Birds, ii. p. 246.

♂ *ad.* (Himalayas). Differs from *M. alpicola* in having the crown and nape, lesser and median wing-coverts brown, the larger coverts brown, tipped with white, the secondaries blackish brown, broadly terminated with white on the inner web, the innermost like the back, and the throat, black, but concealed by whitish edges to the feathers ; bill and legs black ; iris brown. Culmen 0·5, wing 4·4, tail 2·85, tarsus 0·8 inch. Sexes alike. In the winter the bill is yellow, dusky on the culmen, brown at the tip.

Hab. The higher regions of the Himalayas, Kashmir, Ladak, Kulu, and Gilgit, east to Sikhim; Kashgar and Tibet, in summer at altitudes of from 11,000 to 14,000 feet.

It is common on bare and barren mountains, feeding on the seeds of the few plants found in these desolate regions. Its call-note is like that of a Lark. Its nest is constructed of grass and is generally placed in the long dykes, built by the Tartars over their dead, but I do not find any description of its eggs.

438. MANDELLI'S SNOW-FINCH.

MONTIFRINGILLA MANDELLII.

Montifringilla mandellii, Hume, Str. Feath. iv. p. 488 (1876) ; Sharpe, Cat. B. Br. Mus. xii. p. 262 ; *Onychospiza taczanowskii*, Prjev. Mongol i Strana Tangut. ii. p. 81, tab. xi. fig. 1 (1876) ; David and Oust. Ois. Chine, p. 548 (1877).

♂ *ad.* Forehead and supercilium white ; crown and nape earthy brown ; a somewhat indistinct, dull, greyish white collar ; back dark earth-brown, striped with dull white ; rump white ; upper tail-coverts pale fawn-brown ; quills brown, margined with white, secondaries broader, margined with dull white and pale fawn ; wing-coverts broadly tipped with white ; under parts white ; lores and region round the eye black ; bill horn-colour, darker at the tip ; legs black ; iris brown. Culmen 0·5, wing 4·1, tail 2·7, tarsus 0·9 inch. Sexes alike.

Hab. Northern Tibet, the sources of the Tetung river; Koko-nor; the borders of Tsaidam, and the Njan-schan mountains.

In its habits it reminds one of the Chats, runs very swiftly, perches on stone-heaps or rocks, and bobs, continually vibrating its wings. It passes the night in the holes of a species of *Lagomys*, and also digs a hole for itself. It probably builds its nest in these holes, but its nest and eggs are unknown. It collects in small parties but never in large flocks.

439. RED-NECKED SNOW-FINCH.

MONTIFRINGILLA RUFICOLLIS.

Montifringilla ruficollis, Blanford, J.A.S.B. xli. pt. ii. p. 66 (1871); Gould, B. of As. v. pl. 5; Prjev. Mongol i Strana Tangut, &c., tab. xi. fig. 2; (David and Oust.) Ois. Chine, p. 548; Sharpe, Cat. B. Br. Mus. xii. p. 263; Oates, F. Brit. Ind. Birds, ii. p. 245.

♂ *ad.* (Sikhim). Forehead whitish, becoming grey on the fore-crown, the rest of the crown and upper parts generally, warm sandy buff, the back striped with dark brown; sides of the hind-crown and of the neck rufous; quills blackish brown, all but the three outermost white at the base of the inner web, all margined and tipped with buffy white; inner secondaries and larger wing-coverts much broader margined; median and lesser wing-coverts chiefly white; middle tail-feathers blackish brown, margined with warm buff, the rest white or greyish white, broadly tipped with blackish brown, margined with fulvous buff; lores, a stripe through the eye, and a stripe on each side of the throat from the base of the bill black; chin, throat, and under parts white; the sides of the breast and flanks rufous; the vent and under tail-coverts washed with rufous buff; bill and legs blackish; iris brown. Culmen 0·45, wing 3·6, tail 2·12, tarsus 0·83 inch. Sexes alike.

Hab. Sikhim and Tibet, Koko-nor as far north as the Koko-nor basin and the Tetung river; Kan-su.

It inhabits hilly steppes and valleys usually at altitudes of from 15,000 to 16,000 feet. Its flight is wavy and on the ground it runs swiftly, and when sitting on a rock or stone it often makes a peculiar shivering with its wings like a Chat. Its note is said to resemble that of a Tree-sparrow. It inhabits the empty holes of *Lagomys ogotono*, which are numerous on the steppes of the Koko-nor, and nests in them, but so far as I can ascertain the nest and eggs are unknown. In the winter they collect in flocks of several hundred individuals.

440. BLANFORD'S SNOW-FINCH.

MONTIFRINGILLA BLANFORDI.

Montifringilla blanfordi, Hume, Str. Feath. iv. p. 487 (1876); Sharpe, Cat. B. Br. Mus. xii. p. 264, pl. iv.; Oates, F. Brit. Ind. Birds, ii. p. 245.

♂ *ad.* (Sikhim). Resembles *M. ruficollis*, but has the upper parts uniform in colour, unstriped, no white on the median and lesser wing-coverts; tail ashy brown at the base, blackish brown towards the end with a subterminal white band, but the middle feathers are brown, with fulvous margins; forehead, a large patch covering the cheeks and ear-coverts, and broad, short supercilium white; chin and one central and two lateral frontal stripes deep black; bill and legs black; iris brown. Culmen 0·45, wing 3·75, tail 2·3, tarsus 0·71 inch.

Hab. Darjeeling, Sikhim, and Tibet.

It is said to inhabit high altitudes, from 15,000 to 16,000 feet, but I find no account of its habits or nidification.

441. DAVID'S SNOW-FINCH.

MONTIFRINGILLA DAVIDIANA.

Montifringilla davidiana (J. Verreaux), N. Arch. Mus. Bull. vi. p. 40, No. 32 (1870); (Prjev.), Mongol i Strana Tangut, &c., tab. xx. fig. 6, (egg); Sharpe, Cat. B. Br. Mus. xii. p. 265; (David and Oust.) Ois. Chine, p. 339; *Passer ouratensis*; David, MS.; Swinhoe, P.Z.S. 1870, p. 430.

♂ *ad.* Differs from *M. blanfordi*, in having the crown sandy grey, the forehead, a broad line round the bill, the chin and middle of the throat to the breast deep black, scarcely any rufous on the neck; the upper parts distinctly striped with dark brown; bill horn, rather paler at the base; legs black. Culmen 0·4, wing 3·36, tail 1·8, tarsus 0·65 inch. Sexes alike.

Hab. The highlands of Mongolia, south and east to the northern bend of the Khanghor.

In habits it resembles *M. ruficollis*, but its note is like that of *Petronia stulta.* It places its nest, which is formed of dry grass, hair, and down, in the deserted hole of *Lagomys ogotono*, at a depth of about 3 to 4 feet, or the bird digs a hole itself for that purpose, in which case it is narrower, not deeper than 2 to 3 feet and not straight but curved, and widened at the bottom where the nest is placed. The eggs, usually 6 to 7 in number, are deposited in May, and are white with a yellowish tinge, and measure about 0·81 by 0·56.

FRINGALAUDA, Hodgs., 1836.

442. HODGSON'S GROUND-FINCH.

FRINGALAUDA NEMORICOLA.

Fringalauda nemoricola, Hodgs., As. Res. xix. p. 158 (1836); David and Oust. Ois. Chine. p. 334; (Sharpe), Cat. B. Br. Mus. xii. p. 268; Oates, F. Brit. Ind. Birds, ii. p. 247.

♂ *ad.* (Himalayas). Crown and upper parts generally blackish brown, with rufous and dull buff margins, the rump uniform ashy grey; quills dark brown, with narrow rufous margins; greater wing-coverts brown, mottled with black and tipped with white; median coverts ashy brown, margined with white; tail dark brown, with dull whitish margins; sides of head and neck reddish brown; the cheeks with brownish streaks; an indistinct ashy white supercilium marked with brown; under parts plain brown, the sides of the breast and flanks streaked with dark brown, the centre of the abdomen dull white; under tail-coverts broadly margined with white; under wing-coverts ashy white; axillaries yellow; bill and legs fleshy brown; iris ruddy brown. Culmen 0·48, wing 3·87, tail 2·65, tarsus 0·8 inch. Sexes alike.

Hab. The Himalayas from Nepal to Bhutan, the Kan-su mountains in Mongolia, Moupin, and Western China.

Inhabits the Alpine regions, in summer at considerable altitudes, descending lower in the winter. When the young are fledged they collect in large flocks and frequent the meadows and slopes of the highest mountains. When in search of food they keep flying from place to place uttering a squeaking note. On the ground they disperse but on the wing form a dense mass. I do not find any description of its nest or eggs.

443. ALTAI GROUND-FINCH.

FRINGALAUDA ALTAICA.

Fringalauda altaica (Eversm.), Bull. Soc. Imp. Nat. Mosc. xxi. p. 223 (1848); Dresser, Ibis, 1893, p. 378; *F. sordida*, Stoliczka, J.A.S.B. xxxvii. pt. ii. p. 63 (1868); (Sharpe), Cat. B. Br. Mus. xii. p. 266; Oates, F. Brit. Ind. Birds, ii. p. 248; *Passer pulverulentus* Severtz., Turk. Jevot. pp. 64, 116 (1873). ? *Propasser murrayi*, Blyth, J.A.S.B. xxxii. p. 458 (1863).

♂ *ad.* (Altai). Resembles *F. nemoricola*, but has the upper parts somewhat paler, the axillaries white, not yellow, and the tips of the median and larger wing-coverts narrower and tinged with rufous; bill brown, the base of lower mandible, and a spot at base of forehead brownish fleshy; legs blackish brown; iris cinnabar red. Culmen 0·5, wing 3·92, tail, 2·75, tarsus 0·76 inch. Sexes alike.

Hab. Altai range, Turkestan, Afghanistan; the Himalayas from Gilgit to Kumaon, occurring at altitudes of from 9,000 to 10,000 feet in summer and at about 5,000 feet in winter.

In habits it is said to agree closely with *F. nemoricola.*

LEUCOSTICTE, Swains., 1831.

444. BRANDT'S GROUND-LINNET.

LEUCOSTICTE BRANDTI.

Leucosticte brandti, Bp. Consp., i. p. 537 (1850); (Sharpe), Cat. B. Br. Mus. xii. p. 269; (Oates), F. Brit. Ind. Birds, ii. p. 248; *Montifringilla hæmatopygia*, Gould, P.Z.S. 1851, p. 115; id. B. of As. v. pl. 3.

♂ *ad.* (Sikhim). Upper parts sooty ashy brown, with darker streaks; crown sooty blackish brown; rump and upper tail-coverts ashy brown, with terminal rosy margins; wings and tail blackish brown, with hoary whitish margins, the coverts with broader margins; lores, base of the bill, and feathers round the eye blackish; under parts ashy grey, the lower abdomen white; bill and legs black; iris brown. Culmen 0·5, wing, 4·4, tail 2·95, tarsus 0·8 inch. Female similar, but the rose tint on the rump is duller. The young bird is duller and darker, more streaked above, and lacks the rosy tinge on the rump.

Hab. Turkestan; the Himalayas from Gilgit to Sikhim; Tibet.

Frequents the mountains in summer at elevations of 12,000 to 19,000 feet, descending lower in winter. I find nothing on record respecting its habits, and its nest and eggs are unknown.

445. SIBERIAN GROUND-LINNET.

LEUCOSTICTE ARCTOA.

Leucosticte arctoa, (Pall.) Zoogr. Ross. As. ii, p. 11 (1811); (Gould), B. of As. v. pl. 2; Ridgway, p. 394; (Sharpe), Cat. B. Br. Mus. xii. p. 272; Tacz. F. O. Sib. O. p. 649; *Fringilla gebleri*, Brandt, Bull. Soc. Acad. St. Petersb. x. p. 251 (1842).

♂ *ad.* (E. Siberia). Upper parts dull chocolate brown with paler margins; wings blackish brown with broad, external, silvery white margins and blackish shafts; tail and upper tail-coverts hoary white, with blackish shafts, the former dark grey at the tip; an indistinct light band from the eye covering the nape and hind-neck; under parts chocolate-brown, with faint reddish margins; under tail-coverts hoary white; bill and legs blackish brown; iris dark brown. Culmen 0·47, wing 4·15, tail 2·85, tarsus 0·8 inch. Sexes alike.

Hab. Eastern Siberia; accidental on Aleutian Islands (?).

Inhabits the mountains where it is resident and not numerous. In summer it is found above the forest zone, usually on the south side of the mountains. Its nest and eggs are unknown, but the latter are probably white like those of its congeners.

446. GIGLIOLI'S GROUND-LINNET.

LEUCOSTICTE GIGLIOLII.

Leucosticte gigliolii, Salvadore, P.Z.S. 1868, p. 579, pl. xliv; (Sharpe), Cat. B. Br. Mus. xii. p. 273; Tacz. F. O. Sib. O. p. 651.

♂ *ad.* (E. Siberia). Differs from *L. arctoa* in having the lower back and scapulars washed with dull crimson, the wings without the silvery white margins; tail blackish brown with narrow paler margins; rump and upper tail-coverts sooty blackish; an indistinct greyish brown collar; crown, ear-coverts, and cheeks dull silvery grey; under parts dark greyish brown, the breast and flanks washed with dull crimson; middle of abdomen greyer; beak and legs blackish; iris brown. Culmen 0·47, wing 4·35, tail 3·0, tarsus 0·8 inch. Sexes alike. In winter the plumage is browner, with less red, the under parts have ashy grey margins, and the bill is yellowish with dark tip.

Hab. Eastern Siberia, in the Baikal district, and Dauria.

In habits it resembles *L. arctoa*, and frequents bare rocky localities on the sunny side of the mountains, where it finds abundance of seeds on which it feeds. In severe weather it collects in flocks and is then seen near the villages, where it feeds on grain and the seed of the wild cabbage (*Brassica oleracea*). Its nest and eggs are unknown.

447. ALEUTIAN GROUND-LINNET.

LEUCOSTICTE GRISEONUCHA.

Leucosticte griseonucha (Brandt), Bull. Ac. St. Petersb. 1841, p. 36; Baird, Trans. Chic. Acad. i. p. 317, pl. 28, fig. 2; Nelson, Nat. Hist. Alaska, p. 176; Turner, Nat. Hist. Alaska, p. 171, pl. viii.; (Sharpe), Cat. B. Br. Mus. xii. p. 275; Ridgway, p. 393; Tacz. F. O. Sib. O. p. 655.

♂ *ad.* (Alaska). Differs from *L. brunneinucha* in being darker, both above and below; crown black, the sides of the hind-crown, of the head from the middle of the eye, and the entire nape and hind-neck pearl-grey; lores and throat blackish; breast blackish chocolate, very slightly marked with red on the lower portion; bill blackish horn, slightly yellowish at the base; legs black; iris nut-brown. Culmen 0·58, wing 4·4, tail 3·2, tarsus 0·97 inch. Sexes alike. In the winter the grey on the head and neck is duller, and the bill is yellowish with a dark tip. The nestling is dull reddish brown, greyer on the rump and abdomen, darker on the head; secondaries and wing-coverts broadly margined with fulvous; no red in the plumage.

Hab. Aleutian, Prybelov, and Commander Islands; Alaska; is said to winter in South-eastern Siberia.

"It affects the bold ragged cliffs along the sea-shore, and is constantly in motion either on the wing, flying in sweeping, long curves, sometimes near the earth, to mount 30 or 40 feet at a single effort, alighting on some projecting ledge of a bluff to search for food, and away again to alight for a moment on a weed-stalk." It is very tame and confiding when near the villages, but elsewhere more shy. It has no song but utters a low, mellow chirp; its food consists chiefly of seeds, but also of insects and their larvæ. It breeds in May, constructing a neat nest of grass lined with finer grass and feathers, which it places in a chink or crevice of the cliffs, and deposits 3 to 6 pure white eggs, with a rosy tinge when fresh, which measure about 0·97 by 0·67.

448. JAPANESE GROUND-LINNET.

LEUCOSTICTE BRUNNEINUCHA.

Leucosticte brunneinucha, (Brandt), Bull. Ac. Sc. St. Petersb. x. p. 252 (1842); (Gould) B. of Asia. v. pl. 4; David and Oust. Ois. Chine, p. 334, pl. 89; (Sharpe), Cat. B. Br. Mus. xii. p. 278; Tacz. F. O. Sib. O. p. 653; (Seebohm), B. Jap. Emp. p. 128; Ridgw. p. 395.

♂ *ad.* (Japan). Upper parts dark brown, with sandy brown margins; crown dark grey, marked with hoary grey; occiput, nape, hind-neck, and sides of neck tawny buff, sometimes dull creamy white; rump and upper tail-coverts washed and tipped with rosy red; wings and tail blackish brown, with whitish margins the former washed with rosy red; under parts blackish brown, margined with greyish white, and washed with rosy red, the chin, throat, and neck dusky greyish brown; under tail-coverts white, with dusky centres and washed with rosy red; bill and legs blackish; iris dark brown. Culmen 0·46, wing 4·15, tail 2·85, tarsus 0·8 inch. Sexes alike. In winter the plumage is more sandy coloured, and the bill yellow, with a dark tip.

Hab. Kamchatka, Eastern Siberia, Japan, and Northern China.

Frequents the same localities as *L. gigliolii*, rocky bare places in the mountains, and feeds on small seeds. It breeds in Kamchatka, nesting in the rocks, but I do not find any description of its nest and eggs.

449. Tibetan Ground-Linnet.

LEUCOSTICTE ROBOROWSKII.

Leucosticte roborowskii, Prjev., Ibis 1887, p. 411.

♂ *ad.* Upper part of the head carmine, with silvery specks on the nape; sides of head and throat blackish carmine, with large triangular silvery spots on the throat; the whole body reddish pink, with carmine margins on the back of the neck and back, as well as on the shoulders and upper wing-coverts; the prevailing colour of these latter is light brown; upper and under tail-coverts pink; thighs white; on the hinder flank-feathers a few long, blackish bars; feathers and under wing-coverts white, with pink margins; primaries brown, with whitish red margins, broader on the inner ones which have greyish white tips; inner web of primaries and part of secondaries similarly coloured; tail brown, with whitish red external margins, except the outer feathers, which have white margins; bill dark horn, paler at the base; legs brown; iris dark hazel. Culmen 0·54, wing 4·9, tail 3·55, tarsus 0·82 inch.

Hab. Eastern Burkhan-Budda range Tibet, at from 15,000 to 16,000 feet altitude.

In habits and mode of life undistinguishable from *L. brandti*. Only one specimen, the type of this species, is known at present, and not having had an opportunity of examining this, I have reproduced Prjevalsky's description.

FRINGILLA, Linn., 1766.

450. Chaffinch.

FRINGILLA CÆLEBS.

Fringilla cœlebs, Linn. Syst. Nat. i. p. 318 (1766); Naum. v. p. 13, pl. 118, figs. 1, 2; Hewitson, i. p. 192, pl. xlix. fig. 1; Gould, B. of E. iii. pl. 187; id. B. of Gt. Brit. iii. pl. 34; Newton, ii. p. 68; Dresser, iv. p. 3, pl. 182; Sharpe, Cat. B. Br. Mus. xii. p. 171; Saunders, p. 183; Lilford, iv. p. 36, pl. 19.

Pinson ordinaire, French; *Tentilhão,* Portug.; *Pinzon,* Span.; *Fringuello,* Ital.; *Buchfink,* German; *Virik,* Dutch; *Bogfinke,* Dan. and Norweg.; *Bofink,* Swed.; *Peipponen,* Finn.; *Ziablik,* Russ.

♂ *ad.* (England). Forehead black; crown, nape, and sides of the neck rich slaty blue; back dull chestnut-red; rump yellowish green; quills dull dark brown, externally margined with greenish white, the inner secondaries margined with fulvous, the median coverts almost pure white, the lesser and scapulars plumbeous; middle tail-feathers blackish grey, indistinctly edged with white, the rest black, with broad white patches on the two outer ones; cheeks, throat, and under parts rich reddish brown, paler on the lower abdomen; bill bluish plumbeous; legs dull brown; iris hazel. Culmen 0·55, wing 3·45, tail 3·0, tarsus 0·75 inch. In the winter the colours are duller, the feathers on the head and nape have brownish margins, and the under parts are paler. The female has the head and back dull brown, the crown darker, the under parts dull greyish brown, with a reddish tinge, the lower abdomen and under tail-coverts dirty white.

Hab. Europe generally, but not common north of the Arctic circle; east to Western Siberia, Persia, and Turkestan; North Africa in winter.

Frequents groves, gardens, and plantations. Is quick and active in its movements, and is as a rule by no means shy. Its song though short is loud, melodious, and exultant, in England at least being regarded as a good harbinger of returning spring, for the birds begin singing immediately on the cessation of frost and cold. It feeds chiefly on insects during the summer, and on seeds and berries at other seasons, and may be reckoned amongst the farmer's and gardener's best friends. It breeds in April or May, placing its neat little nest on the bough of a tree, but seldom in a hedge; it is constructed of grass-bents, rootlets, moss, lichens, and fine bark-strips, carefully lined with wool, hair, or feathers. The eggs 4 to 6 in number are purplish grey, clouded with rufous, washed with green, and spotted and blotched with dark red, and measure about 0·77 by 0·56. Occasional varieties are pale blue, faintly marked with purple, and finely spotted with dark brown.

451. CANARIAN CHAFFINCH.

FRINGILLA TINTILLON.

Fringilla tintillon, Webb and Berth., Orn. Canar. p. 21. pl. 4, fig. 1 (1836–44); Dresser, iv. p. 9, pl. 183, fig. 1, (partim), ix. p. 190; ? *Fringilla canariensis,* Vieill., Nouv. Dict. xii. p. 232 (1817); Sharpe, Cat. B. Br. Mus. xii. p. 177.

♂ *ad.* (Canaries). Differs from *F. cœlebs* in having the crown blackish blue, the back dark slate-blue, the rump and upper tail-coverts apple-green, and the under parts buffy fawn, and no distinct frontal band. Culmen 0·6, wing 3·25, tail 2·48, tarsus 0·8 inch. The female has the upper parts darker and the under parts paler than the female of *F. cœlebs*, the latter being pale buff, without any reddish tinge.

Hab. Canary Islands.

In habits it does not differ appreciably from *F. cœlebs.* It does not affect the lowlands, at least during the summer, but is usually to be met with in the chestnut-groves, or less commonly amongst the laurels and in the pine-woods. Dr. Koenig expresses its call-note by the syllables *tschihuit, tschihuit,* and its song *hitta, hitta, hitta, rrrrr,* and he found it rather shy and wary. It breeds in May, placing its nest like our Chaffinch on a tree, but it does not construct it so neatly, it being somewhat loosely built of bents, dry grasses, moss, and hair, lined with hair and feathers. The eggs, usually 4 in number are pale bluish or greenish white, sparingly spotted with dark brown, sometimes resembling the ordinary type of *F cœlebs* but much paler. In size they average about 0·85 by 0·52.

452. SUBSP. FRINGILLA MADERENSIS.

Fringilla maderensis, Sharpe, Cat. B. Br. Mus. p. 175 (1888).

Tintilhão, in Madeira.

♂ *ad.* (Madeira). Differs but very slightly from *Fr. moreleti*, and only in having the under parts not so decidedly fawn coloured, but with a shade of pink, and the bill is rather stouter and longer. The females are undistinguishable. This is at best a very doubtful subspecies, and scarcely deserving of distinction.

Hab. Madeira.

In habits, note, and nidification this bird does not differ from *F. canariensis* and *Fr. moreleti*, except that it frequents the pine-woods, whereas *F. tintillon* affects the chestnut-groves. Its call-note is said by Dr. Koenig to resemble the syllables *tin, tin, tschin, tschin,* and its song differs slightly from that of the Canarian bird. Its nest resembles that of the Canarian form but is rather neater, and its eggs, usually 3, but occasionally 4 in number, resemble pale varieties of *F. cœlebs* and in size average about 0·79 by 0·6.

453. SUBSP. FRINGILLA MORELETI.

Fringilla moreleti, Puch. Rev. and Mag. de Zool. 1859, p. 412, pl. 16; Sharpe, Cat. B. Br. Mus. xii. p. 176.

Tintilhão, in the Azores.

♂ *ad.* (Azores). Upper parts pale slate-blue, the crown darker; a tolerably broad blackish slate frontal band; back, rump, and upper tail-coverts apple-green, otherwise not differing from *F. tintillon*. Culmen 0·65, wing 3·3, tail 2·82, tarsus 0·85 inch. The female is undistinguishable from that of *F. tintillon*.

Hab. Azores.

In habits it does not differ from its near allies, and I do not find any information as to whether there is any difference in its note or song. Its nest is built of moss, lined with wool, and is not so neatly made as that of *F. cœlebs*. The eggs 4 to 5 in number closely resemble the ordinary type of those of *F. cœlebs*, but are, if anything, a trifle paler.

454. SUBSP. FRINGILLA PALMÆ.

Fringilla palmæ, Tristram, Ann. and Mag. Nat. Hist. ser. 6, iii. p. 489 (1889); Meade Waldo, Ibis. 1890, pl. iii.; Dresser, ix. p. 188, pl. 674; *Fringilla cœrulescens*, Koenig, J. f. O. 1889, p. 183, Tab. vii.

♂ *ad.* (Palma). Differs from *F. tintillon* in having the upper parts uniform plumbeous or slate-blue, there being no green on the back or rump, and the abdomen is pure white, not ochreous buff. Culmen 0·65, wing 3·55, tail 3·15, tarsus 0·95 inch. The female resembles that of *F. tintillon*, but has the upper parts somewhat duller and paler, and the abdomen is pure white, not buffy white.

Hab. The island of Palma, one of the Canary group.

It inhabits the laurel-groves as well as the pine- and chestnut-woods, and is said to differ both in its call-note and song from the Canarian bird, the former resembling the syllables *chiri-chiri, chiri-chiri*. In its habits and nidification it does not otherwise differ from *F. tintillon*, and its eggs are undistinguishable from pale varieties of those of that species.

455. ALGERIAN CHAFFINCH.

FRINGILLA SPODIOGENYS.

Fringilla spodiogenys, Bp. Rev. Zool. 1841, p. 146; Dresser, iv. p. 13, pl. 183, figs. 2, 3; Sharpe, Cat. B. Br. Mus. xii. p. 177; *Fr. africana*, Levaill jun. Expl. Scient. de l'Algér. Atlas, Ois. pl. 7, figs. 1, 1A (1850).

♂ *ad.* (Algeria). Differs from *F. cœlebs* in having the head, the sides of neck and the face rich lead-blue, the middle of the back and the rump apple-green, the upper tail-coverts and scapulars lead-blue, and the under parts pale reddish brown, tinged with pale rose, fading on the abdomen to white, washed with brownish rose; flanks pale slate-grey; under wing and tail-coverts white ; beak dull plumbeous ; legs pale brown ; iris dark brown. Culmen 0·5, wing 3·5, tail 2·9, tarsus 0·75 inch. The female is undistinguishable from that of *F. cœlebs*, except that perhaps it is a trifle greyer.

Hab. Algeria, Morocco, and Tunis, and is said to have occurred near Marseilles.

In its general habits it closely resembles *F. cœlebs*, but its song is said to be harsher. It is found in the pine- and oak-groves, and in the olive-gardens, and is said to be by no means shy. It breeds in March, April, and May, placing its nest on the branch of a tree. This latter resembles that of *F. cœlebs*, and is neatly and artistically constructed of plant-stems, and plant-down intermixed with hair and feathers, and well lined with plant-down, hair, and feathers. The eggs 4 to 5 in number resemble those of *F. cœlebs*.

456. TEYDEAN CHAFFINCH.

FRINGILLA TEYDEA.

Fringilla teydea, Webb and Berth. Orn. Canar. p. 20, pl. 1, figs. 1, 2 (1836–44) ; Dresser, iv. p. 25, pl. 185 ; Sharpe, Cat. B. Br. Mus. xii. p. 170.

♂ *ad.* (Teneriffe). Entire upper parts rich dark blue, the forehead and lores washed with black ; wings and tail black, margined with slate-blue ; under parts much paler than the upper parts, on the abdomen fading to bluish white ; under tail-coverts white ; bill horn-blue, whitish at the base below ; legs pale horn ; iris brown. Culmen 0·65, wing 3·9, tail 3·3, tarsus 0·9 inch. The female has the upper parts dark greyish brown, the wings and tail dark brown, edged with dull light brown, the under parts dull light brown, washed with slate, the abdomen and under tail-coverts dirty white, the latter washed with buff.

Hab. The peak of Teneriffe at an altitude of 7,000 to 8,000 feet.

It is found only in the upper portions of the peak in the pine-woods and where the pine-woods cease and the brush-covered plateau commences, where it feeds on the seeds of the pines, and it is more frequently found on the southern side of the peak. Its food consists almost entirely of the seeds of the pine (*Pinus canariensis*) and to a small extent only of insects. It is said to be very tame, especially when seeking its food on the ground, and can then be approached quite close. Its song is described by Dr. Koenig as *tschin-tin-tini-vi-vi-vi-vi-vi* and not so melodious as that of the Tintillon. Water is a necessity to this bird and it is always found within reach of it. Nidification commences in June and July, and the nest, which is placed in a pine-tree, is constructed of plant-stems, pine-spines, plant-down, and spiders' webs, and well lined with feathers. The eggs, 2 in number, are pale sea-green with pale purplish shell-blotches and dark blackish brown surface-spots collected chiefly at the larger end, and measure 0·96 by 0·68.

457. BRAMBLING.

FRINGILLA MONTIFRINGILLA.

Fringilla montifringilla, Linn. Syst. Nat. i. p. 318 (1766); Naum. v p. 44, Taf. 119; Hewitson, i. p. 194, pl. xlix. figs. 2, 3; Gould, B. of E. iii. pl. 188; id. B. of Gt. Brit. iii. pl. 35; Newton, ii. p. 75; Dresser, iv. p. 15, pl. 184; Sharpe, Cat. B. Br. Mus. xii. p. 178; Saunders, p. 185; Lilford, iv. p. 37, pl. 20.

Pinson d'Ardennes, French; *Tentilhão montez*, Portug.; *Pinzon montañes*, Span.; *Peppola*, Ital.; *Bergfink*, German; *Bergvink*, Dutch; *Noiske Bogfinke, Kvæker*, Dan.; *Bjergfinke*, Norw.; *Bergfink, Norrqvint*, Swed.; *Härkapeippo*, Finn.; *Vyourok*, Russ.; *Vintan*, Lapp.

♂ *ad.* (Sweden). Upper parts glossy blue black, the white bases of the feathers showing occasionally, especially on the nape, lower back, and rump white, slightly varied with black; quills blackish brown, margined with dull white; least wing-coverts orange, median and larger coverts tipped with white, the innermost of the latter marked with orange; a yellowish white spot at the base of the quills; tail blackish brown, with a little white at the base of the outermost feathers; upper tail-coverts ashy-grey, marked with black; sides of the head glossy blue-black; throat and upper breast pale orange; under parts white, the flanks spotted with black, the under tail-coverts tinged with buff; bill horn-blue; feet reddish brown; iris dark brown. Culmen 0·5, wing 3·5, tail 2·4, tarsus 0·7 inch. The female differs in being much more obscurely coloured, and in lacking the black on the head and back, these parts being greyish brown. In the autumn and winter the black in the male is obscured by broad, sandy-buff margins to the feathers, and the margins to the wing and tail-feathers are broader, tinged with orange brown; bill yellow, black at the tip; legs pale brown.

Hab. Northern Europe and Asia from Scandinavia to the Pacific coast, wintering in central Europe, Great Britain, Asia Minor, Northern India, China, and Japan; rarely during severe winters in North Africa.

In general habits it much resembles the Chaffinch but its note is different, being a harsh *cree, cree* not unlike that of the Greenfinch but louder. In the autumn they collect in large flocks and migrate south, and are then to be met with in England and Scotland, but it is only met with occasionally in Ireland. It feeds during the summer to a large extent on insects, on which its young are also reared, but in the autumn and winter it feeds on berries, seeds of various plants, beech nuts, &c. It breeds in Scandinavia from northern Lapland down to central Sweden, and the fells in the birch zone; and in Northern Siberia and Kamchatka. The nest, which is usually placed on a birch tree from 10 or 12 to 25 feet from the ground is a neat structure, resembling that of *F. cœlebs* but larger, and is built of moss, grass, straws, fine rootlets, and lichens, and almost always sheds of the fine paper-like bark of the birch are interwoven on the outside; the lining is usually composed of wool, plant-down, and feathers, and I once took a nest built almost entirely of marsh cotton. The eggs from 4 to 6, less often 7 in number, are usually deposited in May, and resemble those of the Chaffinch, but have generally a greener tinge, and in size average about 0·75 by 0·57 inch.

LINOTA, Bp. 1831.

458. Linnet.

LINOTA CANNABINA.

Linota cannabina, (Linn.) Syst. Nat. i, p. 322 (1766); Naum. v. p. 80, Taf. 121; (Hewitson), i. p. 200, pl. li. fig. 1. (egg); (Gould), B. of E. iii. pl. 191; id. B. of Gt. Brit. iii. pl. 49; Newton, ii. p. 153; Dresser, iv. p. 31, pl. 186; (Sharpe), Cat. B. Br. Mus. xii. p. 240; Saunders, p. 187; Lilford, iv. p. 64, pl. 31.

Linotte, French; *Pintarroxo,* Portug.; *Camacho, Jamas,* Span.; *Montanello, Fanello,* Ital.; *Bluthänfling,* German; *Knew, blasvink,* Dutch; *Tornirisk,* Dan. and Norw.; *Hämpling,* Swed.; *Hamppuvarpunen,* Finn.; *Obuiknovennui-rapoloff,* Russ.

♂ *ad.* (England). Forehead and fore-crown blood-red; the rest of the head and neck brownish grey with dark markings; mantle warm chestnut-brown, the feathers with darker centres; rump paler and marked with white; wings and tail blackish with whitish margins; upper tail-coverts blackish brown with whitish margins; breast rich carmine-red; rest of under parts dull white, the chin with dark stripes; flanks washed with brown; beak horn-colour, brown at base below; legs pale warm brown; iris dark brown. Culmen 0·45, wing 3·15, tail 2·0, tarsus 0·7 inch. The female is browner and more striped on the upper parts, has the breast and flanks striped with brown and lacks the red on the forehead and breast. In the winter the plumage of the male is duller, and the red on the forehead and breast is obscured by whitish margins to the feathers.

Hab. Europe generally, as far north as the Trondhjem Fjord and Luleå, south into North Africa, west to the Canaries and Madeira, and east through Asia Minor and Persia to Sind, Gilgit, and Turkestan.

In the summer it frequents the outskirts of woods, groves, gardens, and hedgerows, and is often seen on bush-covered hillsides, and in the winter it collects in flocks and roams about the fields in company with other Finches. Though quiet and peaceable it is tolerably wary, and in winter rather shy. It feeds chiefly on seeds especially those of an oily nature, and consumes those of many noxious weeds. Its note is a short, harsh, *geck, gecker*, its song sweet and flute-like; and it is much esteemed as a cage-bird. In March it commences nidification, and its nest, which is placed in a tree, bush, or hedge, occasionally even on the ground, is constructed of straws, bents and rootlets, lined with fine roots, wool, and horsehair. The eggs which are deposited in April and June, two broods being raised in the season, are pale sea-green or blue-green finely spotted and blotched with violet-grey, pale red, and blood-red, and average about 0·71 by 0·54. Asiatic birds are rather greyer and brighter in colour, and have been separated subspecifically under the name of *L. fringillirostris* Bp. and Schl. (*L. bella*, Cabanis). But I cannot consider them as even subspecifically distinct.

459. TWITE.

LINOTA FLAVIROSTRIS.

Linota flavirostris (Linn.), Syst. Nat. i. p. 322 (1766); Newton, ii. p. 160; Dresser, iv. p. 59, pl. 191; (Sharpe), Cat. B. Br. Mus. xii. p. 236; Saunders, p. 193; Lilford, iv. p. 66, pl. 32; *Fring. montium*, Gmel., Syst. Nat. i. p. 917 (1788); Naum., v. p. 103, pl. 122; Hewitson, i. p. 203, pl. li. fig. 3; (Gould), B. of Gt. Brit. iii. pl. 50.

Linotte à bec jaune, French; *Pajarel*, Span.; *Montanello forestiero*, Ital.; *Berghänfling*, German; *Fratertje*, Dutch; *Bjergirisk*, Dan.; *Gulnaebbet Irisk*, Norw.; *Gulnäbbad-Hämpling*, Swed.; *Keltanokka varpunen*, Finn.

♂ *ad.* (Scotland). Crown, hind-neck, and upper parts dark hair-brown with lighter tawny brown margins; rump rose-red; wings and tail blackish brown, the primaries with white, the secondaries with tawny brown margins, the wing-coverts with ochreous tips; the tail-feathers with white margins; supercilium, sides of the face, throat, breast, and flanks tawny buff, the lower throat and breast streaked with blackish brown; rest of the under parts dull white; beak yellowish flesh; legs dark brown; iris hazel. Culmen 0·4, wing 2·95, tail 2·55, tarsus 0·65 inch. The female resembles the male but is paler and lacks the red on the rump. In the winter the light margins to the feathers are broader, the red on the rump of the male is confined to the middle of the feathers, and the bill is greyish yellow.

Hab. Northern Europe; Great Britain; on passage and in winter south to the Mediterranean.

In habits it resembles *L. cannabina* but frequents open localities, and not woods, and is as a rule shy and wild. Its call-note resembles that of the Linnet, but is less harsh, and its song is rather superior to that of the Redpoll. It feeds on insects and seeds of various kinds. Its nest is placed in a low bush or on the ground, and is constructed of fine twigs, bents, rootlets, and wool, lined with hair, fur, or wool. Its eggs, 4 to 6 in number, are usually deposited in May, and are pale blue, marked chiefly at the larger end with dark red, and measure about 0·68 by 0·52.

460. SUBSP. LINOTA BREVIROSTRIS.

Linota brevirostris, Bp. Comp. List. p. 34 (1838); Hume, and Henders. Lah. to Yark. p. 260, pl. 26; Dresser, iv. p. 65, pl. 192; Oates, F. Brit. Ind. Birds, ii. p. 229; (Sharpe), Cat. B. Br. Mus. xii. p. 238.

Gornuei rapoloff, Russ.

♂ *ad.* (Erzeroum). Differs from *L. flavirostris* in being much paler, the feathers on the upper parts margined with pale brownish buff or buffy white; under wing-coverts white. Culmen 0·33, wing 3·15, tail 2·7, tarsus 0·7 inch.

Hab. Asia Minor to Persia, Turkestan, Mongolia, Tibet, and Manchuria.

In habits it is said not to differ from *L. flavirostris.* I received the nest and four eggs from Erzeroum together with the parent bird. The nest is constructed of fine bents, wool, and plant-down, neatly lined with plant-down and wool together with one or two feathers. The eggs resemble those of *L. flavirostris*, but are a trifle paler and the markings are fewer and smaller. In size they average about 0·61 by 0·48.

Junco hiemalis (Linn.), a widely distributed American species has been recorded from North East Siberia, a specimen having been obtained on the Vega expedition.

461. MEALY REDPOLL.

LINOTA LINARIA.

Linota linaria (Linn.), Syst. Nat. i. p. 322 (1766) ; (Naum.) v. p. 173, Taf. 126 ; Audubon, B. Amer. pl. 375 ; (Gould), B. of Gt. Brit. iii. pl. 51 ; Newton, ii. p. 133 ; Dresser, iv. p. 37, pl. 187 ; (Sharpe), Cat. B. Br. Mus. xii. p. 245 ; Saunders, p. 189 ; Lilford, iv. p. 57, pl. 28 ; *L. canescens*, (Gould), B. of E. iii. pl. 193 ; (Hewitson), i. p. 202, pl. li.

Sizerin boréal, French ; *Birkenzeisig*, *Bergzeisig*, German ; *Organetto*, Ital. ; *Barmsijsje*, Dutch ; *Graasidsken*, Dan.; *Graasiske*, Norw. ; *Gråsiska*, Swed. ; *Urpovarpunen*, Finn. ; *Tchetchotka*, Russ.

♂ *ad.* (Sweden). Forehead and fore-crown deep blood-red ; upper parts generally blackish brown, the feathers margined with pale brown or brownish white, rump much paler and washed with red ; wings and tail blackish brown, the former and the middle rectrices margined with white ; larger and median wing-coverts tipped with white forming two alar bars ; lores and chin black ; throat and upper breast rose-pink, the rest of under parts white ; flanks streaked with blackish brown ; bill dark horn-brown, yellowish at the base ; legs and iris dark brown. Culmen 0·38, wing 3·08, tail 2·58, tarsus 0·58 inch. The female resembles the male but is smaller and lacks the red in the plumage. In the winter the feathers have the light margins much broader, the red in the male being almost hidden, and the bill is yellow, tipped with brown.

Hab. The high North of both the Old and New Worlds ; migrating South for the winter.

Extremely active and lively in its general habits, it consorts with Titmice and other small birds in the winter, and roves about the groves, woods, and fields where there are trees and bushes in search of food, but in the summer are found in pairs in the open portions of the forests. Its food consists of seed and in the summer of insects of various kinds. Its call-note resembles that of the Canary, and its song is a prolonged trill and a soft twitter ; in the winter when in flocks they utter a soft twittering note. It breeds in the high north, and places its nest, which is a neat structure of fine birch-twigs, vegetable stems, and moss, carefully lined with plant-down and feathers, in a tree generally about 10 feet from the ground, but rarely on or close to the ground. The eggs from 4 to 6 in number are deposited in May or June and are pale greenish blue sparingly blotched and blurred with dull rufous and measure about 0·71 by 0·5. This species is subject to considerable variation and two subspecies *L. holboelli* (Brehm) and *L. rostrata* (Coues) have been recognised but I cannot consider either as fairly separable.

462. Lesser Redpoll.

LINOTA RUFESCENS.

Linota rufescens (Vieill), Mem. Real. Accad. Sc. Tor. xxiii. Sc. Fis. p. 202 (1816–18); (Gould), B. of Gt. Brit. iii. pl. 52; Newton, ii. p. 146; Dresser, iv, p. 47, pl. 188; (Sharpe), Cat. B. Br. Mus. xii. p. 252; Saunders, p. 191; Lilford, iv. p. 62, pl. 30; *L. linaria*, (Hewitson), i. p. 201, pl. li. fig. 2.

Sizerin cabaret, French; *Volicelo, Pajaro linero,* Span.; *Organetto minore,* Ital.

♂ *ad.* (England). Differs from *L. linaria* in being smaller, in having the upper parts darker and more rufous in tinge, the rump more strongly marked, and the bands on the wing pale warm buff. Culmen 0·4, wing 2·75, tail 2·4, tarsus 0·55 inch. The female is smaller, lacks the red on the rump and breast and has the under parts dull brownish white, the breast, sides, and flanks streaked with dull brown.

Hab. Great Britain and Western Europe, breeding in Great Britain, and possibly also in the northern part of western continental Europe, wintering as a rule further south.

Like the preceding species it is lively and active, rather tame and confiding than otherwise, and is essentially a woodland species, frequenting woods, groves, and bush-covered places, but in the winter may often be seen in the open country in large or small flocks, frequenting alder and birch-trees and keeping up a continual twittering. Its food consists of seeds of various kinds chiefly those of composite weeds, and in the summer to some extent of insects. Its song is clear, rather loud than otherwise and pleasing. Its nest, which is placed on a tree or bush, frequently at a considerable height, and occasionally in the heather, is smaller than that of *L. linaria*, cup-shaped, very neatly constructed of fine twigs, grass-bents, moss, and wool carefully lined with plant-down, sometimes with hair and feathers. The eggs 4 to 6 in number are usually deposited in May and resemble those of *L. linaria*, but are smaller, measuring about 0·61 by 0·47.

463. Greenland Redpoll.

LINOTA HORNEMANNI.

Linota hornemanni, Holbœll, Natur. Tidskr. iv. p. 395 (1843); Dresser, iv. p. 55, pls. 189, fig. 2, 190; (Sharpe), Cat. B. Br. Mus. xii. p. 256; Ridgw. p. 396; Lilford, iv. p. 59, pl. 29.

Audnutitlingur, Icelandic; *Orpingmiutak*, Greenl.

♂ *ad.* (Greenland). In general coloration resembling, but paler than *L. linaria*, the rump and upper tail-coverts white, unstriped, and washed with rosy red; under parts white, the flanks unstriped, the breast washed with rosy red; bill blackish above and at the tip, yellowish below; legs blackish brown; iris brown. Culmen 0·4, wing 3·35, tail 2·75, tarsus 0·7 inch.

Hab. Spitsbergen, Jan Mayen, Iceland, Northern Greenland, and eastern Arctic America, migrating south to Labrador in winter. Has twice been obtained in England, 2 or 3 times in the Hebrides, and once near Abbeville in France.

In habits it is said to resemble *L. linaria* but its call-note is shrill and not unlike that of the Waxwing. Its nest is usually placed on a small bush, and is constructed of grass-bents, wool, and marsh-cotton, intermixed with lichens, and sparingly lined with feathers. The eggs resemble those of *L. linaria* but are larger, measuring about 0·73 by 0·53, paler, and with fewer and smaller spots.

464. Subsp. Linota exilipes.

Linota exilipes (Coues), Proc. Philad. Acad. 1861, p. 385; Elliot, New and unfig. B. N. Am. pl. 8; Dresser, iv. p. 51, pl. 189, fig. 1; (Sharpe), Cat. B. Br. Mus. xii. p. 254; Ridgw. p. 396.

♂ *ad.* (Siberia). Resembles *L. hornemanni*, but is smaller; forehead and fore-crown red; upper parts greyish striped with blackish grey; rump white washed with rose-red; lores, chin, and a spot on the upper throat black; under parts white faintly striated on the flanks; throat and upper breast washed with rose-red. Culmen 0·35, wing 3·0, tail 2·6, tarsus 0·57 inch.

Hab. Northern Europe, Asia, and America, wandering south in winter, but rarely as far as Continental Europe or the northern border of the United States.

In habits and note the present species does not appear to differ from *L. linaria*, but its eggs resemble those of

L. hornemanni, being pale sea-green sparingly dotted with pale red and reddish brown, the spots being chiefly collected round the larger end. Compared with those of *L. linaria* they are paler and less marked with red, the spots being much smaller. In size they average about 0·62 by 0·48.

PYRRHOSPIZA, Hodgs., 1844.

465. REDBREASTED ROSE-FINCH.

PYRRHOSPIZA PUNICEA.

Pyrrhospiza punicea, Hodgs. J. A. S. Beng. xiii. p. 953 (1844); Sharpe, Cat. B. Br. Mus. xii. p. 431; Oates, F. Brit. Ind. Birds, ii. p. 211; *P. longirostris*, Prjev. Mongol i Strana Tangut. ii. p. 95, tab. xiv, (1876), *P. humii*, Sharpe, op. cit. p. 433 (1888).

♂ *ad.* (Sikhim). Crown, nape, sides of neck, and upper parts generally deep brown, with dusty brown margins; rump pale carmine; wings and tail dark brown, with indistinct paler margins; forehead, supercilium, sides of the head below the eye, chin, throat, and breast carmine-rose, with silvery white spots; rest of under parts dull brown, striped, chiefly on the flanks, with blackish brown; bill horn-brown, yellow at the base of the lower mandible; legs dark horn; iris dark brown. Culmen 0·72, wing 4·5, tail 3·5, tarsus 0·92 inch. The female has the upper parts duller than in the male, the rump feathers margined with dull green, the under parts pale fulvous, narrowly streaked with black, the breast tinged with buff.

Hab. The Himalayas at elevations of from 10,000 to 17,000 feet, from Kashmir to Kan-su, Tibet, and Western China; is everywhere resident, passing the summer in the higher altitudes, and wintering at lower levels.

I find scarcely anything on record respecting its habits beyond what Prjevalsky gives. He speaks of it as being shy and frequenting rocky places in the mountains, never perching on trees or bushes. Its call-note resembles that of *Passer domesticus*, but is much louder, and its song, which in spring is uttered from a stone or the point of a rock, is pleasing. Stoliczka found a nest made of coarse grass in Rupshu near the Thsomoriri lake, on the ground, in a little bush of the Tibetan furze, the eggs in which were dirty white or greenish with some dark brown spots.

Pale specimens of this species have been described as separable by Prjevalsky under the name of *P. longirostris*, and by Dr. Sharpe under that of *P. humii*, but I am unable to separate this form even subspecifically, and as regards the length of the bill, I find this extremely variable. The variation in tone of colour is also considerable, specimens from Sikhim being as a rule darkest, and the red is richest in tinge, and some from Gilgit, Kan-su, and Tibet are the palest.

CARPODACUS, Kaup, 1829.

466. CAUCASIAN ROSE-FINCH.

CARPODACUS RUBICILLA.

Carpodacus rubicilla (Güld), Nov. Comm. St. Petersb. xix. p. 463, Tab. xii. (1775) ; (Gould) B. of Asia, v. pl. 25 ; Dresser, iv. p. 69, pl. 193 ; Sharpe, Cat. B. Br. Mus. xii. p. 399 ; *Coccothraustes caucasicus*, Pall. Zoogr. Ross. As. ii. p. 13 (1811).

♂ *ad.* (Caucasus). Mantle and hind-neck dusky brown, tinged with deep rose-red, the back with indistinct blackish brown stripes ; rump and upper tail-coverts deep rose-red ; wings and tail dark brown, with paler margins, the former tinged with rose-red ; feathers at the base of the bill blackish ; crown, sides of head, throat, and under parts to the lower abdomen rich scarlet, spotted with silvery white ; ear-coverts tipped and glossed with silvery grey ; lower abdomen and under tail-coverts rosy red, the latter striped with dark brown ; flanks tinged with brownish grey ; bill light yellowish horn ; legs and iris dark brown. Culmen 0·55, wings 4·6, tail 3·95, tarsus 0·92 inch. The female has the upper parts pale earthy brown, the forehead tinged with yellowish buff, the feathers with dark central lines ; wings and tail dark brown, with ashy-brown margins ; under parts ashy buff, with a yellowish tinge, and with dark stripes ; under tail-coverts buffy white.

Hab. Caucasus.

But little is known respecting the habits of this bird except that it inhabits the higher portions of the mountain ranges, frequenting the banks of mountain torrents, feeding on berries, chiefly those of *Hypophæa rhamnoides.* Its nest and eggs are as yet unknown.

467. SUBSP. CARPODACUS SEVERTZOVI.

Carpodacus severtzovi, Sharpe, P. Z. S. 1886, p. 354 ; id. Cat. B. Br. Mus. xii. p. 400 ; Tacz. F. O. Sib. O. p. 658 ; Oates, F. B. Ind. Birds, ii. p. 220.

♂ *ad.* (Tibet) Differs from *C. rubicilla* in being considerably paler, the upper parts being pale ashy brown, tinged with rose red, the rump rose-red, the under parts much paler rose-red, not scarlet, the lower abdomen and under tail-coverts ashy white, tinged with rose. Culmen 0·67, wing 4·5, tail 3·45, tarsus 1·0 inch. The female differs from that of *C. rubicilla* in being much paler.

Hab. Turkestan, Gilgit, Ladak, Kashgar, Tibet, Tsaidam. In the summer it inhabits the mountains at from 10,000 to 12,000 feet elevation, descending lower for the winter.

In habits it does not differ from *C. rubicilla.* A nest and eggs stated to be those of this species were taken by Dr. Stoliczka in the province of Rupshu, Western Tibet, on the 7th July. The nest, which was placed on the ground under a furze-bush, was constructed of coarse grass, lined with goat's hair and a little vegetable fibre, and the eggs are pale greenish blue with a few good sized spots and many tiny specks of black or blackish brown, confined entirely to the broader half of the egg; in size they average about 0·98 by 0·69.

468. SUBSP. CARPODACUS RUBICILLOIDES

Carpodacus rubicilloides, Prjev. Mongol i Strana Tangut ii. p. 90, Tab. xii. (1876); Sharpe, Cat. B. Br. Mus. xii. p. 402; Bianchi and Berez. Plitz. Kan-su, &c. p. 135.

♂ *ad.* (Kan-su). Resembles *C. rubicilla,* but is smaller, the upper parts are much more boldly striped, and the silvery white markings are much narrower and less tinged with rose; bill dark horn above, yellowish below; legs dark horn; iris brown. Culmen, 0·45, wing 4·04, tail 3·5, tarsus 0·9 inch. The female has the upper parts brownish grey, striped with blackish brown, paler on the rump; wings and tail dark brown, with paler external margins; under parts yellowish white, narrowly striped with blackish brown.

Hab. Mountains of Kan-su, the plateau of Amdos, probably also the mountains of Tibet.

It inhabits open and bush-covered localities high up in the mountains, and is tolerably wary. Its flight is high and undulating, and its note resembles the whistle of *Pyrrhula major.* There is nothing on record respecting its nidification.

469. STOLICZKA'S ROSE FINCH.

CARPODACUS STOLICZKÆ.

Carpodacus stoliczkæ (Hume), Str. Feath. 1874, p. 523; Sharpe, Cat. B. Br. Mus. xii. p, 403; id. 2nd Yarkand Miss. p. 43, pl. vi. Bianchi and Berezovski, Ptitz. Kan-su, &c. p. 134.

♂ *ad.* Forehead, lores, region round the eye, and chin deep rose red; fore-crown and supercilium silvery rose; hind-crown, nape, and upper parts generally pale sandy or ashy brown, unstriped, the rump pale rose; wings and tail ashy brown, with narrow external margins; throat pale rose, with a silvery tinge; rest of the under parts dull white, the breast washed with pale rose. Culmen 0·4, wing 3·7, tail 2·95, tarsus 0·75 inch. The female differs in lacking all trace of red in the plumage, the general colouration being sandy brown, paler on the rump and under parts. This species approaches nearest to *C. sinaiticus*, but has the upper parts paler and unstriped, the under parts much whiter, and tinged with rose only on the throat and breast.

Hab. Yarkand to North-west Kan-su and the Amdos plateau.

I find no particulars of the habits or nidification of this species.

470. Scarlet Finch.

CARPODACUS ERYTHRINUS.

Carpodacus erythrinus (Pall.), Nov. Comm. Petrop. xiv. p. 587, pl. 23, fig. 1 (1770); Naum. iv. p. 418, Taf. 113, figs. 1. 2; Gould, B. of Gt. Brit. iii. pl. 43; Newton, ii. p. 174; Dresser, iv. p. 75, pl. 195; Sharpe, Cat. B. Br. Mus. xii. p. 391; Oates, F. Brit. Ind. Birds, ii. p. 219; Saunders, p. 197; Lilford, iv. p. 72, pl. 35; *C. erythrinus grebnitskii*, Stejn. Bull. U.S. Nat. Mus. No. 29, p. 265 (1885); Bianchi and Berezovski, Ptitz. Kan-su, &c. p. 133.

Karmin-Gimpel, German; *Verdone bastardo*, Ital.; *Tchetchevitza*, Russ.

♂ *ad.* (Russia). Upper parts ashy brown, indistinctly darker striped, except on the rump, and tinged with rose-red; crown, nape, and rump brighter, and carmine rose; wings and tail brown, narrowly margined with dull rose; the wing-coverts more broadly tipped with dull rose, forming a double alar bar; chin, throat, and upper breast carmine, the rest of the under parts dull white, tinged with rose; bill greyish horn, darker above; legs horny brown; iris hazel brown. Culmen 0·5, wing 3·3, tail 2·5, tarsus 0·75 inch. The female has no red in the plumage, but has the upper parts ashy brown, tinged with olive, the stripes on the head clearer than on the back, the wing-coverts tipped with yellowish white, and the under parts greyish white, striped with brown, the middle of the abdomen nearly white.

Hab. Eastern and north-eastern Europe; of accidental occurrence in western and southern Europe, and Great Britain; Asia through Siberia to Kamchatka; in winter south to China, Manchuria, Mongolia, Burma, and India.

In general habits it somewhat resembles the Linnet, is often seen in bushes and low trees near water, and in gardens, and does not seem to seek its food on the ground. Its food consists of the seeds of trees and bushes, less often those of plants, and of tender buds. Its call-note is a clear whistle, and its song, which is uttered from the top of a bush or tree, pleasing and characteristic. The nest, which is placed on a low tree or bush, is rather loosely constructed of dry bents and rootlets, lined with a few horse hairs, and the eggs, 4 to 6 in number, are deposited late in May and are rich blue, sparingly dotted at the larger end with dark red and blackish brown, and measure about 0·79 by 0·6. Specimens from Eastern Asia are as a rule brighter in tinge of red, and have been separated subspecifically under the name of *C. grebnitskii,* but I have specimens from the Ural and Asia Minor which are as richly coloured as any from Eastern Asia.

471. SINAITIC ROSE-FINCH.

CARPODACUS SINAITICUS.

Carpodacus sinaiticus, Bp. and Schlegel, Monogr. Lox. p. 17, pl. 18 (1850); Dresser, iv. p. 73, pl. 194; Sharpe, Cat. B. Br. Mus. xii. p. 403.

♂ *ad.* (Sinai). Feathers at the base of the bill deep rosy carmine; fore-crown, sides of head and throat rose-carmine, the feathers pointed, and glossed with silvery white; central and hind-crown duller red tinged with brownish grey; back smoky brownish grey indistinctly darker striped and washed with red; rump rose-carmine; wings and tail dull brown with paler external margins, lesser wing-coverts tinged with red; under parts paler rose-carmine, the middle of the abdomen and under tail-coverts nearly white; bill light horn with a faint red tinge; legs light brown; iris dark brown. Culmen 0·42, wing 3·5, tail 2·72, tarsus 0·8 inch. The female is greyish isabelline brown, darker above and striped with brown, and paler on the under parts.

Hab. Southern Palestine, Arabia-Petraea, and the peninsula of Sinai.

In its general habits it is lively but somewhat shy, frequenting rocky localities on the sunny side of mountains, and is generally to be seen on the ground, and not on bushes. It feeds on small seeds. I do not find anything on record respecting its nidification.

472. THREE-BANDED ROSE-FINCH.

CARPODACUS TRIFASCIATUS.

Carpodacus trifasciatus, Verreaux, Nouv. Archiv. du Mus. Bull. vi. p. 30 (1870) viii. pl. 4, fig. 3; (David and Oust.) Ois. Chine, p. 353, pl. 93; Sharpe, Cat. B. Br. Mus. xii. p. 404; Bianchi and Berezov. Ptitz. Kan-su, etc. p. 138, tab. iii. figs. 1, 2.

♂ *ad.* (Kan-su). Upper parts crimson, the dorsal feathers margined with pale grey, forehead and fore-crown striped with silvery grey; wings black, the secondaries broadly margined externally with white; wing-coverts and scapulars broadly tipped with white; upper tail-coverts and tail blackish brown; under parts dull crimson, brighter on the lower breast; sides of the head, chin, and throat with silvery white stripes; flanks greyish white, middle of abdomen nearly white; under tail-coverts slaty blackish tipped with dull white, bill brown, the lower mandible whitish; legs greyish red; iris chestnut red. Culmen 0·5, wing 3·4, tail 3·03, tarsus 0·85 inch. The female lacks all trace of red in the plumage; upper parts dull slate-grey striped with blackish except on the rump, the back slightly, the rump more clearly washed with golden yellow; wings and tail slaty blackish, the red and white on the male replaced by yellow; under parts dull ashy grey with darker stripes, the middle of the abdomen dull ashy white; the sides of the head slightly, and the breast richly washed with golden yellow.

Hab. Western Szechuen and Kan-su.

Nothing appears to be known of the habits of this Rose-Finch except that it frequents the bush-covered portions of the mountains, where it feeds on the seeds of the wild plants.

473. BRANDT'S ROSE-FINCH.

CARPODACUS RHODOCHLAMYS.

Carpodacus rhodochlamys (Brandt), Bull. Sci. Acad. Imp. St. Petersb. 1843, p. 27; Bp. and Schlegel, Monogr. Lox. p. 22, pl. 35; Severtz. Turk. Jevot. p. 64; Sharpe, Cat. B. Br. Mus. xii. p. 406; *Propasser rhodometopus*, Biddulph, Ibis, 1881, p. 156, pl. vi.

♂ *ad.* (Turkestan). Forehead and a broad supercilium silvery white, washed with rose; crown and upper parts generally rosy brown with darker stripes, the rump rosy red, unstriped; wings and tail dark brown with broad internal rosy whitish external margins to the wing-feathers, and narrow ones on the tail; sides of head, chin, and throat, silvery rose, the feathers pointed; lores and a band through the eye rosy brown; rest of the under parts rosy red, the under tail-coverts paler and striped with brown; bill greyish brown, whitish below; legs brownish flesh colour; iris light brown. Culmen 0·5, wing 3·65, tail 3·05, tarsus 0·95 inch. The female has no red in the plumage but is ashy brown above, ashy white below, clearly streaked with blackish brown; wings and tail brown with paler margins; supercilium indistinct, pale buff mottled with brown.

Hab. The Altai, Alatau, and Tian-shan ranges; Turkestan south to the Iskander-kul and Zamin, east to the spurs of the mountains of Kashgar.

Respecting the habits of this bird there is very little on record, and I find no description of its nidification.

474. SUBSP. CARPODACUS GRANDIS.

Carpodacus grandis, Blyth, J.A.S.B. xviii. p. 810 (1849); Gould, B. of As. v. pl. 26; Sharpe, Cat. B. Br. Mus. xii. p. 404; Oates, F. Brit. Ind. Birds, ii. p. 216; *C. sophia*, Bp. and Schlegel, Mon. Lox. p. 22, pl. 34.

♂ *ad.* (Himalayas). Differs from *C. rhodochlamys* merely in having the forehead like the rest of the crown and not silvery rose. Culmen 0·5, wing 3·6, tail 3·1, tarsus 0·85 inch. The female is indistinguishable from that of *C. rhodochlamys.*

Hab. North-east Afghanistan and the Himalayas from Gilgit to Garhwál and Kumaun, but it is doubtful if it occurs in Sikhim.

Is common near Gilgit, and found in summer to an elevation of about 9,000 feet, descending in winter to 5,000 feet or below that. There is said to be no difference in the plumage between winter and summer. I find no description of its nidification.

475. THE ROSE-FINCH.

CARPODACUS ROSEUS.

Carpodacus roseus (Pall.), Reis. Russ. Reichs, iii. p. 699 (1776); (Naum.) iv. p. 418, Taf. 113, fig. 3; (Gould), B. of E. iii. pl. 207; id. B. of Asia, v. pl. 33; (Tacz.) F. O. Sib. O. p. 656; Sharpe, Cat. B. Br. Mus. xii. p. 407; Bianchi and Berezovski, Ptitz. Kan-su, etc. p. 136.

♂ *ad.* (E. Siberia). Forehead and fore-crown silvery white tinged with rose; rest of crown and nape pale rosy red; back rose-red striped with blackish brown; lower back and rump rose-red; wings and tail dark brown washed with red and margined with rosy white or pale rose; median and greater coverts tipped with rosy white; forming a double alar bar; cheeks, throat, and sides of the neck rosy red closely spotted with silvery white; rest of under parts deep rosy red, the middle of the abdomen nearly white; bill brown, the lower mandible greyish; legs reddish grey; iris chestnut. Culmen 0·45, wing 3·55, tail 2·7, tarsus 0·75 inch. The female has the upper parts greyish brown tinged with rose and striped with dark brown, the under parts brownish white tinged with rose and streaked with dark brown, rump rosy red less streaked than the back; wings and tail as in the male but less washed with rose.

Hab. Siberia from the Yenesei to the Pacific coast and Saghalien; in winter visiting Mongolia, Japan, and China.

It frequents the outskirts of the forests and bushes situated in the middle of fields, and in autumn is met with in the woods, where it feeds on conifer seeds. In winter it is common in Corea. Czekanowski took the eggs of this bird not far north of Irkutsk, but I do not find any description of either the nest or eggs.

476. VINOUS ROSE-FINCH.

CARPODACUS VINACEUS.

Carpodacus vinaceus, Verr. Nouv. Archiv. Mus. Bull. vi. p. 39 (1870), viii. pl. iv. figs. 1, 2; (David and Oust.) Ois. Chine, p. 356, pl. 96; Sharpe, Cat. B. Br. Mus. xii. p. 416; Bianchi and Berezovski, Ptitz. Kan-su, p. 140.

♂ *ad.* (Kan-su). Differs from *C. rhodochrous* in being much darker above, deep red with indistinct dark markings, the rump much brighter red; wings and tail blackish brown, the two innermost secondaries with a silvery terminal patch; supercilium dark rose-pink; under parts deep red with indistinct dark markings, the deep rose-red with fine dark stripes; bill dark brown; legs reddish grey; iris chestnut red. Culmen 0·48, wing 2·7, tail 2·25, tarsus 0·75 inch. The female is duller and browner than that of *C. rhodochrous*, the striping is finer, and it lacks the ochraceous supercilium.

Hab. Southern Kan-su and Szechuen.

It is resident in the mountains of Szechuen, frequenting bush-covered localities, feeding on buds and berries. When disturbed it flies off, uttering a plaintive, silvery note. Its nest and eggs appear to be unknown.

477. HODGSON'S ROSE-FINCH.

CARPODACUS PULCHERRIMUS.

Carpodacus pulcherrimus (Hodgson) in Gray's Zool. Misc. p. 85 (1844); (Moore), P.Z.S. 1855, p. 216; Sharpe, Cat. B. Br. Mus. xii. p. 429; (Oates), F. Brit. Ind. Birds, ii. p. 215; *C. davidianus*, Milne-Edwards, Nouv. Archiv. Mus. i. p. 19, pl. 2, fig. 2 (1864); (David and Oust.) Ois. Chine, p. 354, pl. 95.

♂ *ad.* (Himalayas). Forehead, crown, nape, and upper parts generally hair-brown, tinged with grey on the back, broadly striped with blackish brown; rump pale rose almost unstriped; wings and tail dark brown with paler margins; supercilium and cheeks silvery rose; under parts pale rose, the dark bases of the feathers showing through on the throat and breast; lower abdomen paler; flanks striped with dark brown; bill horn-brown the lower mandible greyish, legs rosy grey, iris reddish brown. Culmen 0·42, wing 3·02, tail 2·57, tarsus 0·75 inch. The female has the upper parts fulvous brown streaked with blackish brown, under parts ashy white tinged with fulvous and closely streaked with dark brown, the supercilium indistinctly fulvous, mottled with brown.

Hab. The Himalayas from Kumaun to Sikhim, S.E. Tibet, S.E. Mongolia, the Utai-shan mountain range, Central and North China to Ordos.

Is found in the more elevated portions of the mountains and is resident, frequenting both bushes and trees, feeding on buds and small seeds. Its nest, which is placed in a bush, is constructed of fern leaves and grass-bents, lined with hair and feathers, and is neatly formed and cup-shaped. The eggs, 5 in number, are rich turquoise-blue spotted with brown. Its call-note is a low, plaintive whistle, and its song pleasing but little varied.

Three other species of *Carpodacus* may very probably occur within the Palæarctic area, though they have not yet been obtained there. These are *Carpodacus rhodochrous* (Vigors) which inhabits the Himalayas from Dharmsala to Nepal, *C. rhodopeplus* (Vigors) which inhabits the Himalayas from Garhwál to Sikhim, and *C. verreauxi* (David) which has been obtained in the elevated mountain valleys above Moupin.

478. EDWARDS'S ROSE-FINCH.

CARPODACUS EDWARDSI.

Carpodacus edwardsi Verr. Nouv. Arch. Mus. Bull. vi. p. 39 (1870), viii. pl. 3, fig. 4; Sharpe, Cat. B. Br. Mus. xii. p. 418; (David and Oust.) Ois. Chine, p. 355, pl. 94; (Oates), F. Brit. Ind. Birds, ii. p. 218; Bianchi and Berezovski, Ptitz. Kan-su, etc. p. 139; *Propasser saturatus*, Blanf. J.A.S.B. xli. Pt. ii. p. 168, pl. viii. (1872).

♂ *ad.* (Sikhim). Upper parts brown washed with crimson, the back and scapulars streaked with black; forehead, crown, and nape dull crimson with black streaks; lores and sides of head dull crimson; supercilium, cheeks, chin, and throat rose-pink; breast dark rose, rest of under parts pink all finely streaked with black; beak brown above, grey below; legs greyish red, iris chestnut red. Culmen 0·5, wing 3·25, tail 2·55, tarsus 0·85 inch.

Hab. The Himalayas from Nepal to Bhutan, S.W. Kan-su, and Szechuen.

It is usually found at high elevations, about 10,000 feet, in the mountains. In its habits and note it resembles *C. pulcherrimus,* but nothing is known respecting its nidification.

479. WHITE-BROWED ROSE-FINCH.

CARPODACUS THURA.

Carpodacus thura, Bp. and Schleg. Mon. Lox. p. 21, pl. 23 (1850); (Moore), P.Z.S. 1855, p. 215, pl. 113; (David and Oust.) Ois. Chine, p. 357; Sharpe, Cat. B. Br. Mus. xii. p. 425; (Oates), F. Brit. Ind. Birds, ii. p. 213; *C. dubius*, Prjev. Mongol i Strana Tangut. ii. p. 92, tab. xiii. (1876); Sharpe, tom. cit. p. 427; *Propasser blythi*, Biddulph, Ibis, 1882, p. 283, pl. ix.

♂ *ad.* (Sikhim). Lores and feathers round the base of the bill crimson, those on the forehead with silvery tips; a broad supercilium, cheeks, ear-coverts, chin, and throat rose-pink striped with silvery white; a broad band behind the eye blackish; crown, nape, and upper parts generally dark brown boldly streaked with blackish; rump rose-pink; wings and tail blackish brown, the quills margined with rosy white or rose-buff; wing coverts margined and tipped with dull pink; under parts rose pink, the lower abdomen whitish; under tail-coverts blackish, margined with rose; bill brown; legs grey; iris chestnut-brown. Culmen 0·48, wing 3·3, tail 2·9, tarsus 0·9 inch. The female has the red replaced by yellowish, the cheeks and ear-coverts pale rufous streaked with blackish, the feathers at the base of the upper bill buff marked with black; chin, throat, breast, and flanks pale rufous streaked with black; abdomen buffy white; under tail-coverts blackish margined with buffy white.

Hab. Gilgit, Nepal, Sikhim, Tibet, Alashan, Kan-su, and Amdos.

It inhabits the more elevated portions of the mountains, and has been met with at 11,000 feet and above. It frequents rhododendron bushes, grassy slopes, thickets, on the banks of rivers, and juniper bushes. Its song is very weak, but its call- or alarm-note is unpleasant and somewhat resembles the syllables *brijj, brijj, brijj.* Mandelli obtained a nest at Dolaka in Nepal in August which was built in a thorn bush, cup-shaped, and constructed of fine grass, coated exteriorly with brown moss, and lined with white fur. The eggs, 3 in number, are dull greenish blue, sparingly marked with brownish grey, and measure about 0·87 by 0·65.

Carpodacus ambiguus (Hume) Str. Feath. ii. p. 326 (1874), which may possibly occur within the Palæarctic area, is a subspecies differing from *C. thura* in the absence of the silvery rose on the forehead and supercilium, and of the silvery markings on the throat. Only one male, which was obtained in Garhwal, is known.

ERYTHROSPIZA, Bp. 1832–41.

480. CRIMSON-WINGED BULLFINCH.

ERYTHROSPIZA SANGUINEA.

Erythrospiza sanguinea (Gould), P. Z. S. 1837, p. 127 ; id. B. of Asia, v. p. 28 ; Dresser, iv. p. 91, pl. 197 ; (Sharpe), Cat. B. Br. Mus. xii, p. 280 ; (id.) 2nd Yark. Miss. Aves, p. 34, pl. v. ; *E. phœnicoptera*, Bp. Comp. List. p. 34 (1838) ; *E. rhodoptera* (Licht.), Nomencl. Av. p. 48 (1854) ; Radde Orn. Cauc. p. 167.

♂ *ad.* (Asia Minor). Crown dull blackish, with slightly paler margins, the sides of the crown, throat and hind-neck sandy buff ; lores and sides of the head at the base of the bill carmine-red ; upper parts dull umber-brown, with paler margins, the upper tail-coverts rose-pink ; quills and larger wing-coverts dark brown, externally margined with rich rose or carmine-red, the inner secondaries tipped with white ; outer rectrices white, the shafts brown, remainder dark brown slightly tipped with white ; throat and flanks pale umber-brown, with dark centres ; middle of breast, abdomen, under tail, and wing-coverts white, tinged with rose ; bill brownish ; legs light brown ; iris dark brown. Culmen 0·52, wing 4·15, tail 2·5, tarsus 0·78 inch. Female duller in colour, the crown-feathers with broader sandy buff margins, the under parts with the white more extended, and the red in the plumage paler.

Hab. Palestine, Asia Minor, the Caucasus, Persia, Turkestan, and Yarkand; of doubtful occurrence in Algeria and Arabia.

Appears to be resident throughout its range, passing the summer at considerable altitudes in the mountains, descending down to the plains in the winter. It frequents trees and bushes as well as the rocks, and is said to be somewhat shy and restless in its general habits. It is not found in the woods, but where trees and bushes are sparsely distributed. The only record of its nidification is that of Mr. Cochrane, who found a nest containing one egg near the cedars of Lebanon on the 24th May, 1864, and shot the parent bird, which he presented to Canon Tristram. The nest, which was placed in a tree, resembled that of a Greenfinch, and the egg, which is now in my collection, is white with a faint greyish sea-green tinge, very minutely dotted, chiefly at the larger end, with grey, and measures 0·87 by 0·60.

481. DESERT BULLFINCH.

ERYTHROSPIZA GITHAGINEA.

Erythrospiza githaginea (Licht.), Verg. Doubl. p. 24 (1823), Gould, B. of E. iii. pl. 208 ; Dresser, iv. p. 85, pl. 196 ; Shelley, B. of Egypt, p. 155, pl. v. ; Sharpe, Cat. B. Br. Mus. xii. p. 284 ; Oates, F. Brit. Ind. Birds, ii. p. 221.

Trombettiere, Ital. ; *Pispo, Gorrion colorado, Pajaro moro* in the Canaries.

♂ *ad.* (Canaries). Crown and sides of the head delicate ash-grey, on the nape merging into brown ; back and scapulars pale brown, tinged with pink ; rump and upper tail-coverts brownish pink, the latter margined with carmine ; wings dark brown, the feathers externally margined with pink and carmine, the inner quills tipped with light brown ; rectrices dark brown, margined with carmine towards the tip ; under parts pinkish grey, the throat, breast, and abdomen feathers slightly tipped with carmine ; flanks buffy grey ; beak bright red ; iris brown ; legs brownish fleshy. Culmen 0·4, wing 3·4, tail 2·15, tarsus 0·7 inch. Female differs from the male in being duller, and less rosy in tint. In the winter the beak is yellow, the upper mandible tinged with brown.

Hab. The Canaries, rare in Southern Europe, but tolerably common in N. Africa ; Palestine, Persia, Afghanistan, Baluchistan, Sind, Rajputana, and the Gurgaon district in the Punjab.

Frequents desert, sterile, stony localities and is a resident almost throughout its range, collecting in winter in flocks and visiting fields in search of its food, which consists chiefly of seeds of various plants. In its general habits it is tame and confiding, not being subject to persecution. Its note resembles the sound of a small penny trumpet, is sometimes loud and clear, at others prolonged and harsh, and it also utters a harsh *kä, kä, kä*, and a cackling call-note *kek-kek, kek-keheck*, and its alarm note is a loud *schak, schak.*

It breeds late in February or early in March, and the nest, which is constructed of fine roots and grass-bents, occasionally lined with hair or feathers, is placed on the ground or in the cleft of a rock. The eggs, 4 to 5 in number, are pale bluish white, paler than those of *Pyrrhula europæa,* sparingly dotted, chiefly at the larger end, with dull red and blackish brown, and measure about 0·79 by 0·56.

BUCANETES, Cab., 1850.

482. Persian Desert Bullfinch.

BUCANETES OBSOLETUS.

Bucanetes obsoletus (Licht.), in Eversm. Reise, Anhang. p. 132 (1823); (Gould), B. of As. v. pl. 29; Dresser, ix. p. 193, pl. 675; (Sharpe), Cat. B. Br. Mus. xii. p. 282.

Timochuk, Turki.

♂ *ad.* (Transcaspia). Upper parts pale sandy brown, rump paler, upper tail-coverts darker and tinged with rufous; under parts paler, the abdomen nearly white; lores, a narrow space at the base of the bill, and a frontal line black; quills black, margined with white, the secondaries and wing-coverts broadly margined with bright rose; rectrices black, the middle ones broadly, and the rest narrowly margined with white; bill black; legs fleshy brown; iris brown. Culmen 0·5, wing 3·5, tail 2·45, tarsus 0·7 inch. In the winter the plumage is greyer, the quills and tail margined with buffy white, and the bill yellowish. The female is paler in coloration, and has the wings more faintly marked with rose-red, and the beak dark horn, not black.

Hab. Syria, Transcaspia, Persia, Afghanistan, Turkestan, east to the northern bend of the Hoang-ho river in Chinese Mongolia.

Appears to be resident throughout its range and frequents plains or low hills, clayey, sandy, or stony localities scantily covered with grass or low bushes, never far from water, and is also to be met with in gardens, on the banks of brooks, and tamarisk patches in the desert. It feeds exclusively on small seeds, and its song, which may be heard from the middle of February to the end of May, is sweet and melodious. Its call-note resembles the syllables *fink, fink,* or *pink, pink,* in tone rather faint and soft.

It breeds twice in the season, in May and July, and its nest, which is placed on a bush or tree, is constructed of twigs and fibres, lined with fine vegetable fibres, horsehair, plant-cotton, or wool, and is sometimes loosely, at others neatly constructed. The eggs, 4 to 6 in number, are pale bluish grey, spotted and streaked, chiefly round the larger end, with fine purplish brown, and measure about 0·770 by 0·575.

483. MONGOLIAN DESERT BULLFINCH.

BUCANETES MONGOLICUS.

Bucanetes mongolicus (Swinhoe), P.Z.S. 1870, p. 447 ; (David and Oust.) Ois. Chine, p. 349, pl. 97 ; Dresser, ix. p. 197, pl. 676 ; Sharpe, Cat. B. Br. Mus. xii. p. 287 ; (Oates), F. Brit. Ind. Birds, ii. p. 222 ; "*B. incarnatus* Severtz." ; Dode, P.Z.S. 1871, p. 480 ; Gould, B. of As. v. pl. 30.

Tagh-Timochuk, Turki ; *Che-chao, Sseu-cheung,* Chinese.

♂ *ad.* (Turkestan). Upper parts pale hair-brown, dorsal feathers centrally darker ; rump and upper tail-coverts rose-red ; quills dark brown, externally margined with rosy white, the secondaries broadly margined and tipped with white ; larger and median wing-coverts broadly margined with buffy white and rose-red ; rectrices dark brown, margined with buffy white ; under parts buffy white, washed with bright rose-red ; bill yellowish brown ; legs light brown ; iris dark brown. Culmen 0·45, wing 3·5, tail 2·25, tarsus 0·7 inch. The female is duller, and less rose-tinted. The young male resembles the adult female, but has the larger wing-coverts brownish red, without white margins, and the median coverts with very narrow white margins. The young female has scarcely any red in the plumage, the breast only being faintly tinged with rose.

Hab. Transcaspia, Afghanistan, Turkestan, and the Himalayas to N.E. Kan-su and N.W. China.

Like the preceding species it frequents sandy plateaus, clayey hills, and stony places, and is chiefly resident, though in some parts to some extent migratory, and feeds on small seeds of various kinds, frequently those of saline plants. Its usual note resembles the syllables *tuck, tuck, tuck,* and its song is sweet and melodious, owing to which it is a favourite cage-bird. On the ground it runs swiftly and with ease, and its flight is swift and strong. It breeds in May, and its nest, which is placed on the ground, in a bush or a tree, is constructed of dry plant-stems, lined with goat's hair. The eggs are greenish white, marked at the larger end with a few blackish spots and lines, and measure from 0·82 to 0·86 by 0·54 to 0·58.

URAGUS, Keys and Blas., 1840.

484. Long-tailed Rose-Finch.

URAGUS SIBIRICUS.

Uragus sibiricus (Pall.), Reis. Russ. Reichs, ii. Anhang. p. 711 (1771); David and Oust. Ois Chine, p. 357; Gould, B. of As. v. pl. 27; Sharpe, Cat. B. Br. Mus. xii. p. 464; Dresser, ix. p. 205, pl. 678; Tacz. F. O. Sib. O. p. 663; *U. caudatus* (Pall.), Zoogr. Ross. As. ii. p. 10, Tab. 37 (1811); *U. longicaudus* (Temm.), Man. d'Orn. i. p. 340 (1820); (Gould), B. of E. iii. pl. 205.

♂ *ad.* (E. Siberia). Forehead and lores rich rose-red, the rest of the head silvery white, tinged with rose; back rose-red striped with dark brown, with silvery white margins; rump and upper tail-coverts rosy red; quills blackish margined (more broadly on the secondaries) with white; wing-coverts blackish, broadly tipped with white; the lesser coverts tinged with rosy-red; outer rectrices white, middle rectrices blackish, margined with white; underparts rosy red, the abdomen white, tinged with rose; throat and neck silvery white, tinged with rose, the feathers lanceolate; under tail-coverts pale rosy red; bill horn-brown. paler below; legs reddish grey; iris brown. Culmen 0·38, wing 3·1, tail 3·6, tarsus 0·65 inch. In the summer the male is more richly tinged with rosy red, and the margins to the feathers are narrower. The female has the upper parts greyish brown, striped with dark brown, the rump and upper tail coverts unstriped and washed with rose, under parts brownish ash, nearly white on the abdomen, the throat and breast striated, with blackish brown, the flanks indistinctly striped and tinged with rose.

Hab. Siberia from the Ural range to the Pacific; Turkestan, Mongolia, Manchuria, and N. China.

Frequents the sunny bush-covered mountain-slopes and bushes on the banks of rivers and streams, and is not a forest-loving species. Its food consists of small seeds of various kinds of plants. Throughout its range it is partly migratory, wandering south in the autumn, and partly resident. Its alarm-note is a low *fit, fit, fit,* and its song, though low, is melodious and prolonged. Its nest is usually placed in the fork of a bush, near the main stem, and is constructed of bents and plant-fibres, lined with bents, fur, horsehair, down, and feathers, and is neat and artistic in shape. The eggs, 4 to 6 in number, are usually deposited in May, and are rich blue, sparingly spotted, chiefly at the larger end, with black, and vary in size from 0·67 by 0·55 to 0·77 by 0·55 inch.

485. SUBSP. URAGUS SANGUINOLENTUS.

Uragus sanguinolentus (Temm. and Schlegel), Faun. Jap. Aves, pls. 54, 54B (1850); David and Oust. Ois. Chine, p. 358; Sharpe, Cat. B. Br. Mus. xii. p. 466; Tacz. F. O. Sib. O. p. 69.

♂ *ad.* (Japan). Differs from *U. sibiricus* in being smaller, darker, and much more richly coloured, the breast and abdomen being bright rose-red, almost carmine. Culmen 0·35, wing 2·75, tail 2·86, tarsus 0·62 inch. The female is smaller and darker than that of *U. sibiricus*, and is tinged with warm reddish brown.

Hab. Eastern Siberia, Dauria, the Ussuri country, the islands of Askold and Saghalien, the Kuriles, Japan, Manchuria, and N. China.

In habits it does not differ from *U. sibiricus*, of which it is a brighter coloured smaller form, and its nest and eggs are probably also similar, but I find no record of its nest having been found.

It is possible that *Uragus lepidus*, David and Oust, (*Ois. Chine*, p. 359) may occur in Mongolia.

PYRRHULA, Briss., 1760.

486. THE BULLFINCH.

PYRRHULA EUROPÆA.

Pyrrhula europæa, Vieill. Nouv. Dict. iv. p. 286 (1816); Newton, ii. p. 166; Dresser, iv. p. 101, pl. 199; Sharpe, Cat. B. Br. Mus. xii. p. 447; Saunders, p. 195; *P. vulgaris*, Temm. Man. d'Orn. i. p. 338 (1820); Naum. iv. p. 383, Taf. iii.; Gould B. of E. iii. pl. 209; id. B. of Gt. Brit. iii. pl. 41; Hewitson, i. p. 211, pl. liv. fig. 1; Lilford, iv. p. 68, pl. 33.

Bouvreuil commun, French; *Pisco-chilreiro, Domfafe*, Portug.; *Camachuelo*, Span.; *Ciuffolotto*, Ital.; *Dompfaff*, German; *Goudvink*, Dutch.

♂ *ad.* (England). Differs from *P. major* in being smaller, in having a comparatively smaller bill, and the under parts much duller in colour, being brick-red and not rich vermilion. Culmen 0·35, wing 3·2, tail 2·6, tarsus 0·7 inch. The female also differs from that of *P. major* in being smaller. The young bird resembles the female, but lacks the black on the head, and the upper parts are browner, the under parts are tinged with warm ochreous, and the larger wing-coverts are tipped with warm brownish ochreous.

Hab. Continental and western Europe; Great Britain and Ireland; a rare visitor to N. Africa.

Like its northern and eastern congener it is a resident throughout its range, but in the winter season it wanders about the country in search of food. It frequents woods, groves, and gardens, is lively and cheerful in its general habits, active and agile when on trees or bushes, but heavy and awkward on the ground, and its flight is swift and undulating. Its call-note is a soft, plaintive *hoop, hoop*, or *dyou, dyou*, and its song, though mellow, lacks variety and power. It feeds on seeds, chiefly those of noxious weeds, berries, &c., and to a small extent also on tender buds, but the young are fed both on seeds and on insects and their larvae.

Nidification commences early in May, and the nest, which is placed on a bush or tree, usually not high above the ground, is built of thin dry twigs, fine roots and sometimes leaves, and the cup, which is very neatly formed, is carefully lined with fine roots, and less frequently with hair or wool. The eggs, 4 to 5 in number, are pale greenish blue, somewhat sparingly marked, chiefly at the larger end, with pale purplish red or violet-grey shell-blotches, and dull red or reddish brown surface-spots, and measure about 0·74 by 0·55.

487. SUBSP. PYRRHULA MAJOR.

Pyrrhula major, Brehm, Vög. Deutschl. p. 252 (1831); Dresser, iv. p. 97, pl. 198; Gould, B. of Asia, iv. pl. 38; *Loxia pyrrhula*, Linn. Syst. Nat. i. p. 300 (1766); (Sharpe), Cat. B. Br. Mus. xii. p. 446.

Dompap, Dan. and Norw.; *Domherre*, Swed.; *Punatulkku-Leivonen*, Finn.; *Snyargir*, Russ.

♂ *ad.* (Russia). Crown, nape, space round the eye, and a narrow space round the base of the bill purplish black; upper parts bluish ash, the rump white; wings, upper tail-coverts and tail glossy purplish black; the innermost secondary with the outer web nearly all red; larger wing-coverts tipped with ashy grey; under parts rich vermilion red, the lower abdomen and under tail-coverts white; bill black; legs and iris dark brown. Culmen 0·45, wing 3·8, tail 3·1, tarsus 0·8 inch. The female has the head, wings, and tail not so glossy black, the upper parts ashy brown, the under parts warm brown, with a faint vinous tinge, the outer web of the inner secondary reddish grey, and the bill paler at the base.

Hab. Scandinavia, Russia, occurring as far south as Greece; Eastern Europe generally; Asia as far east as Dauria and south to Central Asia.

Throughout its range it is a resident, though some wander south in the winter. Essentially an inhabitant of the woodlands it frequents woods, groves, and gardens, and inhabits both the plains and hills. It is by no means a stupid bird, but wary and well able to take good care of itself. Its note and song do not appreciably differ from those of *P. europæa*. Both species are greatly valued as cage birds, and can readily be taught to whistle tunes. In captivity they thrive well, and soon become attached to their owner. Its nest and eggs closely resemble those of *P. europæa*, but are as a rule larger, the eggs measuring about 0·79 by 0·63.

488. SUBSP. PYRRHULA KAMTSCHATICA.

Pyrrhula kamtschatica, Tacz. Bull. Soc. Zool. France, vii. p. 395 (1882); id. F. O. Sib. O. p. 680; Sharpe, Cat. B. Br. Mus. xii. p. 447.

♂ *ad.* (Kamchatka). Resembles *P. major*, but has the upper parts clearer and somewhat paler in colour, the band across the wing white instead of grey, the ear-coverts with a silvery tinge, and the inner web of the innermost secondary either very pale red or lacking the red colour altogether. Culmen 0·44, wing 3·71, tail 2·7, tarsus 0·8 inches. The female has the upper parts greyer and less brown in tinge, and the under parts clearer than the female of *P. major*.

Hab. Kamchatka, and of rare occurrence in Manchuria.

In habits it is said to closely resemble *P. major*. Its nest and eggs are, so far as I can ascertain, as yet unknown, but doubtless resemble those of that species.

489. ORIENTAL BULLFINCH.

PYRRHULA GRISEIVENTRIS.

Pyrrhula griseiventris, Lafr. Rev. Zool. 1841, p. 240; Sharpe, Cat. B. Br. Mus. xii. p. 449; *P. rosacea*, Tacz. F. O. Sib. O. p. 681 (nec. Seeb.), *P. orientalis* (partim), Temm. and Schlegel, Faun. Jap. Aves, pl. 53 (1850).

♂ *ad.* (Japan). Differs from *P. europæa* in having only the sides of the head and the upper throat red, pinker, and not so brick-red in tinge, the rest of the under parts being dull ashy grey, and it lacks the red on the innermost secondary. Culmen 0·4, wing 3·25, tail 2·6, tarsus 0·68 inch. The female resembles that of *P. europæa*.

Hab. Eastern Siberia, the lower Amoor, Manchuria, Corea, N. China, and Japan.

In habits it does not differ from our European Bullfinch. It breeds in Siberia, but its nest and eggs appear to be as yet unknown.

P. kurilensis, Sharpe, op cit. xii. p. 450, pl. xi. (1888), has the upper parts not quite so clear grey in tinge of colour, and the under parts a trifle paler and duller than in *P. griseiventris*, and appears to me not to be worthy of even subspecific rank. It inhabits the Kurile islands.

490. SUBSP. PYRRHULA ROSACEA.

Pyrrhula rosacea, Seebohm, Ibis. 1882, p. 371 ; Sharpe, Cat. B. Br. Mus. xii. p. 451 ; *P. orientalis* (partim), Temm. and Schlegel, Faun. Jap. Aves, p. 53 ; Gould, B. of Asia, v. pl. 35.

♂ *ad.* (Japan). Differs from *P. griseiventris* in having the under parts pale rosy red, sometimes with a grey tinge, and the upper parts slightly tinged with rosy red, and slightly duller in tinge of colour than in *P. griseiventris.* Culmen 0·4, wing 3·25, tail 2·55, tarsus 0·7 inch. The female is undistinguishable from that of *P. griseiventris.*

Hab. Eastern Siberia and Japan.

This bird is considered by some ornithologists to be merely an advanced stage of *P. griseiventris*, but after an examination of a considerable series of specimens, I agree with Dr. Sharpe that it should be treated as a valid subspecies. In habits it does not differ from *P. griseiventris.*

491. CASSIN'S BULLFINCH.

PYRRHULA CASSINI.

Pyrrhula cassini, Baird, Trans. Chic. Acad. i. p. 316, pl. 29 (1869) ; Dresser, ix. p. 201, pl. 677 ; Sharpe, Cat. B. Br. Mus. xii. p. 451 ; Turner, Nat. Hist. Alaska, Birds, p. 169, pl. vii ; Ridgway, p. 389 ; *P. cineracea*, Cab. J. f. O. 1872, p. 316, ; Gould, B. of As. v. p. 40.

♂ *ad.* (Siberia). Differs from *P. europæa* in having the upper parts clearer blue grey, the innermost secondary lacking the red, and the under parts are not brick-red, but clear, pale ashy grey, the cheeks and ear-coverts clearer and paler ; flanks and middle of the abdomen rather paler ; bill black ; legs and iris dark brown. Culmen 0·45, wing 3·45, tail 2·80, tarsus 0·65 inch. The female is slightly duller in tone of colour, and the under parts are brownish grey.

Hab. From the Ural mountains through Siberia to Alaska, south to Turkestan and the Mongolian slopes of the Altai range. It has strayed, it is said, as far west as St. Petersburg.

In general habits it is said to resemble our European bird, but its call-note is clearer and not so harsh. It breeds in the southern Baikal district, but its nest and eggs are as yet undescribed. Some specimens from the Altai are rather paler, and have been separated subspecifically by Seebohm under the name *P. cineracea pallida* (Ibis, 1887, p. 101), but I cannot take this view.

492. AZOREAN BULLFINCH.

PYRRHULA MURINA.

Pyrrhula murina, Godman, Ibis. 1866, p. 97, pl. 3 ; Dresser, iv. p. 107, pl. 200 ; Sharpe, Cat. B. Br. Mus. xii. p. 452.

♂ *ad.* (Azores). Resembles the female of *P. europæa*, but has a larger and stouter bill, the upper parts are washed with dull orange-brown, and the rump not white, but coloured like the back ; under parts brownish ash, with an orange-brown tinge ; bill, legs, and iris as in *P. europæa.* Culmen 0·5, wing 3·45, tail 3·0, tarsus 0·9 inch. The female is rather smaller, and less tinged with orange-brown, more especially on the under parts, which are greyer and paler than in the male.

Hab. St. Michael, Azores.

It is said to be confined to mountainous portions of the island of St. Michael, where it is tolerably common and very tame. In general habits it resembles *P. europæa,* but nothing is known respecting its nest and eggs.

493. BEAVAN'S BULLFINCH.

PYRRHULA ERITHACUS.

Pyrrhula erithacus, Blyth, Ibis. 1862, p. 389 ; id. Ibis. 1863, p. 441, pl. x ; Sharpe, Cat. B. Br. Mus. xii. p. 455 ; Gould, B. of Asia, v. pl. 39 ; Oates, F. Brit. Ind. Birds, ii. p. 206 ; David and Oust. Ois. Chine, p. 349.

♂ *ad.* (Sikhim). Space at base of bill black, margined with greyish white ; crown, nape, and upper parts dark ashy grey, the sides of head and throat paler ; a broad black, and then a white band across the rump ; quills black, lesser and median coverts ashy grey, with dark centres, the larger coverts black, with terminal portion ashy grey ; tail and upper tail-coverts glossy black; breast, upper abdomen, and sides orange-red, rest of under parts greyish white; bill black; legs dull flesh colour; iris dark brown. Culmen 0·4, wing 3·27, tail 2·8, tarsus 0·7 inch. The female has the under parts, excepting the white abdomen, chocolate, the back darker.

Hab. Sikhim, Kan-su, Western China.

I find nothing on record respecting its habits or nidification.

The following species of Bullfinch, though not recorded from the Palaearctic area, may not improbably occur there, viz.: *Pyrrhula nipalensis*, Hodgson (inhabiting the Himalayas from Garhwál to Sikhim, and Fohkien in China), *P. aurantiaca*, Gould (the Hazara country and Kashmir, extending into the adjoining native territory), and *P. erythrocephala*, Vigors (Southern Kashmir and Chamba, along the Himalayas to Bhutan).

PINICOLA, Vieill., 1807.

494. PINE GROSBEAK.

PINICOLA ENUCLEATOR.

Pinicola enucleator (Linn.), Syst. Nat. i. p. 299 (1766); (Wils.) Am. Orn. i. p. 80, pl. 5, fig 2; (Naum.) iv. p. 403, Taf. 112, figs. 1, 2; (Gould), B. of E. iii. pl. 204; id. B. of Gt. Brit. iii. pl. 44; (Hewitson), i. p. 210, pl. liii.; (Newton), ii. p. 177; Dresser, iv. p. 111, pl. 201; Sharpe, Cat. B. Br. Mus. xii. p. 459; Saunders, p. 199; Lilford, iv. p. 73, pl. 36; Ridgway, p. 388.

Dur-bec vulgaire French; *Fichtengimpel, Hakengimpel*, German; *Krognæb*, Dan.; *Konglebit*, Norw.; *Tallbit*, Swed.; *Taviokuurna*, Finn.; *Pacagas-loddi*, Lapp.; *Shur*, Russ.

♂ *ad.* (Sweden). Upper parts rich, light, carmine-red, the base of the feathers slaty blue, the head, neck, and rump richer coloured; wings and tail blackish brown, margined with pale red, the secondaries margined, and the larger and median coverts broadly tipped with white, the scapulars and lesser coverts edged with slaty blue, and washed with red; lores, forehead, and orbital region dull blackish; middle of abdomen, under wing- and tail-coverts slate-blue, the last tipped with white; rest of the under parts like the upper parts; bill dull horn, paler at the base below; legs blackish brown; iris dark brown. Culmen 0·7, wing 4·35, tail 3·7, tarsus 0·9 inch. The female differs in having the red in the plumage replaced by apple-yellow. The young bird resembles the female.

Hab. The Northern portions of the Old and New Worlds, occasionally straying in winter to continental Europe, and even to Great Britain; has been obtained as far south as Italy.

Is an inhabitant of the woodlands, chiefly those of conifers, and though said to be a stupid bird it certainly is not so in its breeding-haunts where it is eminently cautious and wary, but in the winter, when it wanders south it is trustful and evidently ignorant of any danger from man, though I have found them there even very shy where they have been subject to persecution. Its foods consists of seeds, to a large extent those of conifers, and of berries. Its note when flying from tree to tree is a low, plaintive, and somewhat melodious whistle, and its song somewhat resembles that of the Bullfinch, but is sweeter and more varied. It breeds in the high north, and its nest, which is placed on a conifer tree is lightly constructed of fine twigs, lined with fine rootlets and grass or moss. The eggs, usually 4 in number are pale blue, with a greenish tinge, spotted and blotched with pale purplish shell-, and dark brown surface-markings, and measure about 0·99 by 0·73. Mr. Ridgway separates the American bird into two subspecies, *P. enucleator canadensis* and *P. enucleator kodiaka*, and considers it subspecifically separable from our European bird, but I fail to detect any difference.

LOXIA, Linn., 1766.

495. COMMON CROSSBILL.

LOXIA CURVIROSTRA.

Loxia curvirostra, Linn. Syst. Nat. i. p. 299 (1766); Naum. iv. p. 356, Taf. 110; Audubon, B. Am. pl. 197; Gould, B. of E. iii. pl. 202; id. B. of Gt. Brit. iii. pl. 45; Hewitson, i. p. 212, pl. liv. figs. 2, 3; Newton, ii. p. 187; Dresser, iv. p. 127, pl. 203; Sharpe, Cat. B. Br. Mus. xii. p. 435; Saunders, p. 201; Lilford, iv. p. 75, pl. 37; Ridgway, p. 392.

Bec-croisé, French; *Cruza-bico*, Portug.; *Pico-tuerto*, Span.; *Crociere*, Ital.; *Kreuzschnabel*, German; *Kruisbek*, Dutch; *Mindre Korsnœb*, Dan.; *Grau-Korsnœb*, Norw.; *Mindre Korsnäbb*, Swed.; *Kapylintu*, *Ristinokka*, Finn.; *Klest-yelovik*, Russ.

♂ *ad.* (Sweden). General colour dull red or brick-red, sometimes varied with yellow, the rump brighter; wings and tail dark brown, margined or tinged with red; middle of abdomen greyish white, tinged with red; mandibles curved, crossing each other except in the nestling, dull brown, darker at the tip; legs dark brown; iris dark hazel. Culmen 0·75, wing 3·9, tail 2·6, tarsus 0·65 inch. In the female the red is replaced by greenish yellow.

Hab. The northern portion of the Old and New Worlds, ranging south through Europe to N. Africa; Asia, east to Japan and south to the Himalayas and China; America south to Mexico. In Scotland it is resident. It is more a wanderer than a migrant and nests nearly throughout its range, in the south in elevated parts of the mountains. In its habits it is very parrot-like, climbing about the conifer-trees, often with the head downwards using both feet and bill in climbing. It feeds on seeds of conifers and to some extent on insects and their larvæ, and is said to be useful in destroying large numbers of the noxious caterpillars which are so destructive to forest-trees. When feeding it is usually silent or utters a low, rather melodious call-note, which in the spring is modulated into a sort of song, simple but musical. Nidification commences early, eggs being often found early in March, or even before that. The nest is usually placed in the fork at the top of a fir-tree, or on the horizontal branches near the stem, and is constructed of twigs, moss, lichens, and grass, lined with wool, hair, and rootlets. The eggs usually 4 in number resemble those of the Greenfinch, and are pale bluish white marked, chiefly at the larger end, with small red and purple spots and dashes, and measure about 0·78 by 0·61.

In size, coloration, and size of bill, the Crossbill varies considerably, and has consequently been separated into many species and subspecies, but I quite agree with Dr. Sharpe that after examining a large series, it is impossible to recognise these. Our European bird has been split up into three species or subspecies, viz., *L. curvirostra*, inhabiting N. Europe, *L. curvirostra balearica* (Homeyer, J. f. O., 1862, p. 256) from the Balearic Isles, and *L. c. poliogyna* (Whitaker, Ibis 1898, p. 625) from Tunis. The Himalayan bird has been named *L. himalayana* Hodgs., the Chinese *L. albiventris* Swinhoe, the Japanese *L. japonica* (Ridg.), and Mr. Ridgway separates the American bird from that found in Europe and recognises three forms, *L.c. minor* (Brehm) from N. America generally east of the Great Plains, *L.c. stricklandi* from the S. Western United States and the highlands of Mexico, and *L.c. bendirei* from the N. W. United States.

496. SUBSP. LOXIA PITYOPSITTACUS.

Loxia pityopsittacus, Bechst. Orn. Taschenb. p. 106 (1802); Naum. iv. p. 339, Taf. 109, figs. 1–3; Gould, B. of E. iii. pl. 201; id. B. of Gt. Brit. iii. pl. 46; Newton, ii. p. 207; Dresser, iv. p. 121, pl. 202; Sharpe, Cat. B. Br. Mus. xii. p. 436; Saunders, p. 202.

Bec-croisé Perroquet, French; *Kiefern-Kreuzschnabel*, German; *Groote Kruisbek*, Dutch; *Stor-Korsnæb*, Dan.; *Furukorsnæb*, Norw.; *Större Korsnäbb*, Swed.; *Iso-Kapylintu*, *Iso-Ristinokka*, Finn.; *Klestsosnovik*, Russ.

♂ *ad.* (N. Sweden). Differs from *L. curvirostra* merely in being larger, and having a stouter and stronger bill, the height of the bill at base being 0·6, and the width of the lower mandible at base 0·5, against 0·5 and 0·4 in *L. curvirostra*. Culmen 1·0, wing 4·2, tail 2·8, tarsus 0·75 inch.

Hab. Europe north of the Mediterranean and west of the Ural; of rare occurrence in Great Britain.

In habits, note, and nidification it closely resembles *L. curvirostra*, but its note is louder, and its nest and eggs rather larger, the eggs measuring about 0·93 by 0·68.

The present form does not appear to have been met with in Asia or North America but is, apparently, confined to Europe.

497. SUBSP. LOXIA RUBRIFASCIATA.

Loxia rubrifasciata, Brehm in litt. Bp. and Schlegel, Monogr. Lox. p. 5 (1850); Dresser, ix. p. 208, pl. 679; *L. bifasciata* (nec. Br.); Sharpe, Cat. B. Br. Mus. xii. p. 442.

♂ *ad.* (Resembles *L. curvirostra*, but is a trifle brighter red in colour; median and larger wing-coverts tipped with rosy white, forming two distinct bars across the wing; the two innermost secondaries tipped with rosy white. Culmen 0·82, wing 3·7, tail 2·25, tarsus 0·72 inch; height of bill at base 0·45, width 0·4. The female resembles that of *L. curvirostra*, but has two somewhat indistinct greyish bands across the wing.

Hab. Eastern Europe (Western Russia, Eastern Germany and Sweden). But little is known of this form which may be a variety of *L. curvirostra*, but it appears to be a fairly good subspecies.

In habits it resembles that species, but its call-note is said to be quite distinguishable from that of *L. curvirostra*. Its nest and eggs are as yet unknown, but will probably not differ from those of *L. curvirostra*.

498. WHITE-WINGED CROSSBILL.

LOXIA LEUCOPTERA.

Loxia leucoptera, Gmel. Syst. Nat. i. p. 845 (1788); Audub. B. Amer. pl. 201; (Wilson), Am. Orn. iv. p. 48, pl. 31, fig. 3; Naum. xiii. p. 188, pl. 385, fig. 4; Gould, B. of E. iii. p. 203; id. B. of Gt. Brit. iii. pl. 48; Newton, ii. p. 218; Dresser, iv. p. 137, pl. 204, fig. 2; Sharpe, Cat. B. Br. Mus. xii. p. 443; Saunders, p. 204; Ridgway, p. 393.

♂ *ad.* (N. America). Head, neck, and back carmine-red, with a pomegranate tinge, often pomegranate red, the dark bases of the feathers showing through here and there; rump claret-red; scapulars black, slightly tinged with red; wings and tail black; wing-coverts broadly tipped with white, forming two white bands, inner secondaries slightly tipped with white; under parts red like the upper parts, but the middle of the abdomen greyish white, tinged with red; under tail-coverts dark slaty grey, broadly margined with white; bill slender, light horn, darker at the tip; legs brownish; iris dark brown. Culmen 0·8, height of bill at base 0·3, wing 3·4, tail 2·55, tarsus 0·6 inch. The female has the upper parts dull ashy grey, broadly striped with blackish brown, slightly tinged with yellow; rump apple-yellow; under parts greyish white, more finely striped with dull blackish brown, the middle of the abdomen nearly white; wings and tail as in the male.

Hab. North America from Northern New England as far north as the spruce-forest extends, east to Alaska, in winter wandering to or beyond Lat. 40°. Has occurred in Greenland and Great Britain.

Frequents the spruce-woods and is tamer and more confiding than *L. curvirostra,* and in winter visits the lumber-camps in small flocks to obtain food. Its note is not unlike that of *L. curvirostra* and it is said to utter a musical song, but though I saw numbers during the breading season I never heard one sing. They make good cage birds and soon become very tame. It breeds in British North America in the spruce-forests, constructing a nest of dry twigs and green lichens, thinly lined with coarse hairs and shreds of the inner bark of trees. The eggs are pale blue spotted or dotted with black and ashy lilac, in size rather smaller than those of *L. curvirostra.* It breeds very early whilst the snow is still deep in the forests, and the nest is therefore very difficult to find.

499. Two-barred Crossbill.

LOXIA BIFASCIATA.

Loxia bifasciata (Brehm), Ornis, iii. p. 85 (1827); Gould, B. of Gt. Brit. iii. pl. 47; Newton, ii. p. 211; Dresser, iv. p. 141, pl. 205; Sharpe, Cat. B. Br. Mus. xii. p. 442; Saunders, p. 203; Lilford, iv. p. 80, pl. 38; *L. tænioptera*, Gloger, Isis, 1827, p. 411; Naum. xiii. p. 188, Taf. 385, figs. 1, 2, 3.

Bec-croisé bifascié, French; *Crociere fasciato*, Ital.; *Weissbindige Kreuzschnabel*, German; *Witbandige Kruisbek*, Dutch; *Hvidvinget Korsnæb*, Dan. and Norw.; *Bändel Korsnäbb*, Swed.; *Kirjasiipi Kieronokka*, Finn.; *Klest-balokruiloui*, Russ.

♂ *ad.* (Archangel). Differs from *L. leucoptera* in having the red in the plumage carmine-red, with a vermilion tinge, the scapulars dull black, much tinged with red, the tail more forked, and the bill stouter. Culmen 0·85, height of bill at base 0·43, wing 3·8, tail 2·75, tarsus 0·62 inch. The female resembles that of *L. leucoptera*, but has the bill stouter, the tail more forked, and the under parts rather fainter and less striped. Both this species and *L. leucoptera* vary a good deal in the depth of red in the plumage, and occasionally it is intermixed more or less with yellow.

Hab. The northern portions of Europe and Asia, in winter wandering south to Southern Germany and Italy, and in Asia to Manchuria. As a rare straggler it has been obtained in England, Scotland, and Ireland.

In habits it does not appear to differ from *L. leucoptera* and frequents the spruce- and larch-woods. It is tamer than the Common Crossbill and is very easy of approach. I never heard it utter any note but the low call-note not unlike that of *L. curvirostra*, but there is no doubt that it has a pleasant and musical song, and in Russia is kept as a cage bird for that reason. Its nest resembles that of *L. curvirostra* but is smaller and somewhat slighter built, and the eggs also resemble those of that species but are rather darker in ground colour.

EMBERIZA, Briss., 1760.

500. Corn-Bunting.

EMBERIZA MILIARIA.

Emberiza miliaria, Linn. Syst. Nat. i. p. 308 (1766); Naum. iv. p. 213, Taf. 101, fig. 1; Hewitson. i. p. 186, pl. xlvii. fig. 3; Gould, B. of E. iii. pl. 171; (id.) B. of Gt. Brit. iii. pl. 26; Newton, ii. p. 38; Dresser, iv. p. 163, pl. 208; Sharpe, Cat. B. Br. Mus. xii. p. 552; Saunders, p. 207; Lilford, iv. p. 24, pl. 13.

Bruant-Proyer, French; *Triguerão*, Portug.; *Triguero*, Span.; *Strillozo*, Ital.; *Grauammer*, German; *Grauwe Gors*, Dutch; *Kornlærke*, Dan.; *Kornsparf*, Swed.; *Prosyanka*, Russ.

♂ *ad.* (England). Upper parts and sides of the head greyish brown striped with blackish brown, the rump and upper tail-coverts only obscurely thus marked, under parts white, the throat, breast, and flanks striped with blackish; quills and rectrices dark brown with pale buffy white or pale rufous buff margins; median coverts with dull white tips; bill horn with a rufous tinge, the under mandible yellow; legs pale fleshy brown; iris dark brown. Culmen 0·52, wing 3·9, tail 3·1, tarsus 1·0 inch. The female resembles the male but is smaller, and the young birds also, but they are more ochraceous in colour.

Hab. Europe generally, from southern Norway and Sweden to the Mediterranean, east to the Ural; Canaries; N. Africa in winter; Asia as far east as Turkestan, and is said to have once occurred in Sind.

Frequents arable fields and less often meadows where trees and bushes are scattered about, and is often seen on the ground. During the breeding-season it lives in scattered pairs, but in the autumn collects in flocks and in company with Sparrows and Yellow Buntings visits stubble-fields, stackyards, and farm-buildings in search of food. In the summer it feeds chiefly on insects, the young being fed on these only, but in the autumn and winter on grain and seeds of various weeds. Both on the ground and on the wing it is a heavy, somewhat clumsy bird. Its call-note in the pairing season is a soft *zik, zik,* and its song, which is uttered from the top of a tree, bush, or stake, is not so loud as that of *E. citrinella*, and resembles the syllables *zick, zick, zick, ter ill, ill, ill, ill.* Its nest, which is placed on or near the ground, is constructed of grass, moss, and a few twigs, usually lined with a few hairs, and the eggs, 5 to 6 in number, are usually deposited rather late in the season, and are dull white or ochreous white blotched and streaked with purplish brown, and are subject to considerable variation. In size they average about 0·95 by 0·68.

This bird roosts on the ground, and is consequently often netted with Larks.

501. STRIPED BUNTING.

EMBERIZA STRIOLATA.

Emberiza striolata (Licht.), Verz. Doubl. p. 24 (1823); Dresser, iv. p. 197, pl. 213; (Sharpe), Cat. B. Br. Mus. xii. p. 561; Oates, F. Brit. Ind. Birds. ii. p. 264.

Andhi cherya, Hind.

♂ *ad.* (India). Head and neck greyish white striped with white; on each side of the head three white stripes, the upper one forming a supercilium; upper parts warm sandy brown with dark brown stripes; quills dark brown, edged with creamy sienna, the inner web sienna at the base; wing-coverts sienna with dull grey margins; tail blackish brown edged with sienna; throat and upper breast-feathers black with greyish white margins; rest of under parts pale buff; under wing-coverts sienna; bill blackish brown the lower mandible yellowish; legs pale yellow; iris brown. Culmen 0·4, wing 3·25, tail 2·45, tarsus 0·5 inch. The female is paler and more obscure in colour, the dark stripes paler, those on the breast almost obsolete. In the winter the feathers have grey margins, making the markings more obscure.

Hab. Palestine, Arabia, S. Persia, Baluchistan, Sind to Etawah, the Punjab down to Cutch, and Saugor in the Central Provinces of India; is said to have occurred in N. Africa as far west as Algeria.

Inhabits bare, rocky hill-ranges where the vegetation is but scant, even though more fertile ground may be quite near. In general habits it is active, cheerful, and fearless. Its song is poor in quality and feeble, and is uttered from any elevated perch. Nidification (in India) is said to take place twice in the year, in November and in July. The nest is placed on the ground amongst the rocks, and is constructed of a few twigs, grass-roots, and stems, rather loose in structure, and lined with feathers. The eggs are pale greenish, bluish, or brownish white, spotted and dotted with brown and a few pale purplish streaks and blotches, and measure about 0·74 by 0·51.

502. HOUSE-BUNTING.

EMBERIZA SAHARÆ.

Emberiza saharæ, Levaill jr. Expl. Scient. de l'Alg. Atlas, Ois. pl. ix. bis. fig. 2 (1850); Dresser, ix. p. 219, pl. 682; (Sharpe), Cat. B. Br. Mus. xii. p. 563.

Fiseeough, Arabic; *Tabib*, in Morocco.

♂ *ad.* (Algeria). Differs from *E. striolata* in having the dark stripes on the head and neck finer and less clearly defined, the upper parts more rufous and only indistinctly striped, the breast and under parts unstriped and much more rufous, and the wings more rufous sienna in colour; bill yellowish, dark horn towards the tip; legs pale fleshy; iris brown. Culmen 0·45, wing 3·0, tail 2·6, tarsus 0·65 inch. The female differs in having the upper parts duller and paler, the head and neck sandy grey, and the stripes less clearly defined.

Hab. Morocco, southern Algeria, and Tunis.

In general habits it resembles *E. striolata* but is even more tame and confiding, and frequents native houses, frequently entering the rooms in search of food, and picking up crumbs from the table. It feeds on insects, seeds, and any scraps it can pick up about the native houses, and being protected by the Arabs is even tamer than our Robin. It breeds in March or April, and the nest, which is usually placed in a hole in a wall or on a rafter, is constructed of fine twigs or sticks and grass-bents lined with hair, cotton, or wool. The eggs, usually 3 in number, are white, finely spotted with brown, the spots being usually more profuse at the larger end, often forming an irregular band or zone, and are not unlike some varieties of the egg of *Passer domesticus.* In size they average about 0·79 by 0·6.

503. BLACK-HEADED BUNTING.

EMBERIZA MELANOCEPHALA.

Emberiza melanocephala, Scop. Ann. Hist. nat. p. 142 (1769) ; Naum. iv. p. 227, Taf. 101, fig. 2 ; Gould, B. of E. iii. pl. 172 ; (id.) B. of Asia, v. pl. 13 ; (Newton), ii. p. 64 ; Dresser, iv. p. 151 pl. 206 ; Sharpe, Cat. B. Br. Mus. xii. p. 503 ; Oates, F. Brit. Ind. Birds, ii. p. 261 ; Saunders, p. 205 ; Lilford, iv. p. 34, pl. 18.

Bruant crocote, French ; *Zigolo capinero,* Ital. ; *Kappenammer* German ; *Tschernogolovaia-ovsyanka,* Russ. ; *Gandam* Hind.

♂ *ad.* (Asia Minor). Forehead, lores, below the eye, crown, and nape deep black ; upper parts and lesser wing-coverts rich orange chestnut ; under parts deep yellow ; remiges and rectrices blackish brown, the latter and the primaries narrowly margined with dull white, the secondaries and wing-coverts broadly margined with warm buffy white ; bill dark horn, yellowish flesh below ; legs fleshy brown ; iris dark brown. Culmen 0·65, wing 3·75, tail 3·15 tarsus 0·85 inch. The female is much less richly coloured ; upper parts fulvous brown, the head and back streaked with blackish brown, the crown and rump slightly washed with yellow ; under parts fulvous white, the breast washed with ochraceous, and the abdomen with yellow ; under tail-coverts yellow ; wings and tail as in the male but paler. In the winter the rich colours in the male are obscured by the dull pale margins to the feathers.

Hab. South-eastern Europe as far west as Italy, a rare straggler to France, Great Britain, and Heligoland ; eastward through Asia Minor and Palestine to Persia and Baluchistan, wintering on the plains of India as far east as Delhi, Nagpur, and Chánda, and as far south as Belgaum.

In habits it resembles the Corn-Bunting, frequenting fields and cultivated ground, feeding on insects and seeds in the summer, and grain and seeds in the winter. It call-note is a soft *tchék,* and its song, which is simple but sweet resembles the syllables *sirzirrri siriri.* Its nest which is composed of dry grass-bents and lined with hair, is placed on the ground, in a tuft of grass, or in a low bush, and the eggs usually 5 in number are deposited in May, and are delicate pale greenish blue marked, chiefly at the larger end, with faint purplish underlying shell-spots and light or dark brown surface-spots without any of the irregular lines so characteristic of Bunting eggs. In size they average about 0·87 by 0·63.

504. Red-headed Bunting.

EMBERIZA LUTEOLA.

Emberiza luteola, Sparrm. Mus. Carls. fasc. iv. tab. 93 (1789) ; Dresser, ix. p. 211. pl. 680 ; Sharpe, Cat. B. Br. Mus. xii. p. 506 ; Oates, F. Brit. Ind. ii. p. 262 ; *E. icterica*, Eversm. Add. Pall. Zoogr. Ross. As. fasc. ii. p. 10 (1841) ; *E. bruniceps*, Brandt, Bull. Sc. Acad. St. Petersb. ix. No. 195, p. 10 (1842).

Gandam, Hind. ; *Dalchidi*, Sind. : *Sarik-kutchkach*, Turki ; *Bulle-Bulle-Goaya*, Tekke.

♂ *ad.* (Turkestan). Crown nape and hind-neck rich orange-yellow, the fore-crown tinged with rufous ; back and rump deep yellow the former striped with black ; rectrices and remiges brown margined with creamy white ; lores, sides of head, ear-coverts, throat, and fore-part of neck chestnut-red ; rest of under parts bright yellow ; bill bluish grey, dusky at the tip above ; legs fleshy brown ; iris brown. Culmen 0·6, wing 3·45, tail 2·85, tarsus 0·85 inch. In the winter the bright colours are obscured by ashy margins to the feathers, and the under parts are washed with ashy grey. The female has the upper parts ashy brown, the crown and back streaked with dark brown, the rump washed with olive-yellow ; under parts sandy grey washed with yellow, more richly on the abdomen ; under tail-coverts pale yellow.

Hab. Transcaspia, Turkestan, and Afghanistan, ranging north to Siberia, and south to the Persian Gulf; has twice been obtained on Heligoland ; in winter it is found on the plains of India from the foot of the Himalayas to the Nilgiris and from Sind to Chutia Nagpur.

In habits it is said to resemble *E. miliaria* and frequents cornfields and cultivated ground, usually on the plains, and not in the hills. The nest is placed in a low bush or on the ground, and is constructed of dried grass, plant-stems, and shreds of bark, and lined with hair. The eggs 3 to 4 in number are deposited in May or June and are pale greenish grey, spotted streaked or blotched, often more profusely at the larger end, with sepia brown, and these markings are not unfrequently reduced to small dots. In size they average about 0·83 by 0·64. They resemble those of *E. melanocephala* but are as a rule smaller.

505. CHESTNUT BUNTING.

EMBERIZA RUTILA.

Emberiza rutila, Pall. Reis. Russ. Reichs, iii. p. 698 (1776); Temm. and Schlegel, Faun. Jap. Aves, pl. 56B; (David and Oust.), Ois. Chine, p. 331; Oates, F. Brit. Ind. Birds, ii. p. 263; Sharpe, Cat. B. Br. Mus. xii. p. 514; (Tacz.), F. O. Sib. O. p. 607.

♂ *ad.* (China). Upper parts, including the wing-coverts and external margins of inner secondaries, head, neck to the upper breast rich chestnut-red; many of the feathers with narrow yellowish margins; under parts yellow the flanks striped with chestnut and chestnut-brown; remiges and rectrices dark brown with paler margins; bill dark horn but paler below; legs pale yellowish brown; iris brown. Culmen 0·5, wing 2·75, tail 2·4, tarsus 0·7 inch. The female has the upper parts olivaceous brown striped with blackish brown, the crown tinged with chestnut, the rump unstriped chestnut-red; chin and throat dull white, the sides and lower throat marked with chestnut; rest of under parts as in the male but somewhat duller. The young bird is brown above and pale yellowish below, above and below striped with dark brown.

Hab. Eastern Siberia and N. China wintering in S. China, Siam, and Eastern India; has been once recorded from Japan. During the breeding season it may generally be found amongst the bushes on the borders of the forest, but in the winter it frequents the reed-beds. According to Godlevsky its song is short and insignificant, but Abbé David states that it is pleasant and sustained and that the Chinese value it as a cage-bird on account of its song. It breeds in N. China and eastern Siberia late in May or early in June, the nest, which is placed on the ground amongst the grass, is somewhat slightly constructed of dry plant-stems, and lined with horsehair. The eggs are sandy yellowish, with brownish grey shell-markings and pale olivaceous surface-markings, marked also with a few black scratches and lines. In general tone of colour they are yellowish brown, whereas those of *E. aureola* (which they resemble in character) are olivaceous. In size they measure about 0·69 by 0·54.

506. YELLOW-BREASTED BUNTING.

EMBERIZA AUREOLA.

Emberiza aureola, Pall. Reis. Russ. Reichs, ii. p. 711 (1773); Gould, B. of E. iii. p. 174; Naum. xiii. pt. 2, p. 166, taf. 381 figs. 1, 2; Dresser, iv. p. 223, pl. 218; David and Oust. Ois. Chine, p. 332; Sharpe, Cat. B. Br. Mus. xii. p. 509; (Tacz.), F. O. Sib. O. p. 603; Oates, F. Brit. Ind. Birds, ii. p. 259.

Strenatka tschernolitsaya, Russ.; *Kultasirkku*, Finn.

♂ *ad.* (Archangel). Forehead, sides of face, ear-coverts, chin, and upper throat deep black; crown and upper parts deep chestnut, the back striped with black; quills deep brown margined with fulvous, the secondaries washed with rufous; least wing-coverts greyish black, median coverts white, larger coverts dark brown margined with rufous buff and narrowly tipped with dull white; tail blackish brown, the outer feathers chiefly white; under parts bright yellow, the upper breast crossed by a chestnut band, the flanks striped with blackish brown; upper mandible dark horn-brown, lower mandible brownish flesh; legs pale brownish flesh; iris brown. Culmen, 0·45, wing 3·1, tail 2·2, tarsus 0·75 inch. The female has the upper parts greyish brown, the crown and rump tinged with chestnut, the back striped with black; wings and tail as in the male, but the median coverts are blackish brown tipped with fulvous white; chin, lores, and sides of head dark greyish brown, the rest of the under parts pale citron-yellow, the flanks striped with brown. Like its allies the plumage is much duller in the winter owing to the ashy margins to the feathers.

Hab. Northern Russia, west to the frontier of Finland, east across Siberia to Japan and as far north as Kamchatka; in winter ranging south to China, Siam, and the southern extremity of the Malay peninsula; in the west to Palestine, and as a rare straggler it has occurred in central France, and Italy.

Frequents bush-covered plains on the outskirts of the forests, willow-thickets in damp places, and occurs in the mountains to an altitude of 5,000 to 6,000 feet, and in the winter frequents reed- and rush-beds. Its song, which is short but pleasant, is uttered from the top of a bush or a plant-stem, and it is said to be a most industrious songster. Its nest is placed on the ground amongst the grass, or on a low bush, and is constructed of dry bents and rootlets well lined with horsehair. The eggs, 4 to 5, rarely 6 in number, are deposited early in June, and are greenish grey clouded with darker grey or purplish grey and more or less marked with blackish brown scratches and are subject to considerable variation. In size they measure about 0·75 by 0·58.

507. Japanese Bunting.

EMBERIZA PERSONATA.

Emberiza personata, Temm. Pl. col. iii. pl. 580 (1835); id. and Schlegel, Faun. Jap. Aves, pl. 59B; Sharpe, Cat. B. Br. Mus. xii. p. 521; Tacz. F. O. Sib. O. p. 567.

Awoji, Jap.

♂ *ad.* (Japan). Differs from *E. spodocephala* in having the throat yellow sometimes marked with grey on the sides of the lower throat, and not slaty olive as in that species. Culmen 0·4, wing 2·9, tail 2·5, tarsus 0·85 inch. The female resembles that of *E. spodocephala* but is a trifle larger and is more boldly streaked on the flanks.

Hab. Japan, the Loo-Choo islands and the island of Saghalien, but it does not appear to occur in China.

Frequents the valleys near the rivers, and the plains and in general habits resembles *E. spodocephala*. It breeds numerously on Fuji-yama, and its nest, which is constructed of dry grass and rootlets, and lined with fine roots and horse-hair, is placed on the ground, in a grass-tussock, or in a small pine-tree near the ground. The eggs usually 4 in number are deposited from the end of May to the early part of July, and resemble richly marked varieties of those of *E. hortulana*.

508. Black-faced Bunting

EMBERIZA SPODOCEPHALA.

Emberiza spodocephala, Pall. Reise Russ. Reichs, iii. p. 698 (1776); David and Oust. Ois. Chine, p. 329; Schrenck. Reis. etc. Amurl. p. 142, Taf. xii. figs. 5–8; Sharpe, Cat. B. Br. Mus. xii. p. 522; Oates, F. Brit. Ind. Birds, ii. p. 260; Tacz. F. O. Sib. O. p. 563.

♂ *ad.* (Siberia). A broad band across the forehead, lores and the point of the chin deep black; crown, nape, and upper parts, together with the whole neck and breast dull olive-green, on the hind-neck washed with brown; mantle washed with rufous and striped with black; wings and tail blackish brown, the quills and wing-coverts margined with rufous and rufous-buff; the two outer rectrices with large oblique white patches; under parts below the breast yellow; the flanks striped with brown; bill dark brown above, horny pinkish white below; legs brownish fleshy; iris brown. Culmen 0·44, wing 2·75, tail 2·15, tarsus 0·75 inch. The female has the upper parts browner, and lacks the black on the face, chin, and forehead; chin, throat, and breast yellow spotted and streaked with brown; rest of the under parts as in the male but duller.

Hab. Siberia from the Yenesei valley to the Pacific, wintering in China and the Himalayas from Nepal to Assam and down to Manipur; is said to have been once met with in Japan.

Inhabits the outskirts of the forests and has a preference for the banks of rivers and damp marshy localities. Its song, which is uttered from the top of a bush near the nest, is short, somewhat feeble, but pleasant. It arrives at its breeding-haunts late in May and at once commences nidification. The nest, which is placed in a low bush, or occasionally on the ground, is constructed of grass-bents and plant-stems well lined with hair, and the eggs, 4 to 6 in number, much resemble some varieties of *Passer domesticus* and are white, splashed and blotched all over, in some more closely at the larger end, with brown, varying in shade from light nut-brown to brown with an olivaceous tinge and dull rufous brown. In size they average about 0·72 by 0·56.

509. JAPANESE YELLOW BUNTING.

EMBERIZA SULPHURATA.

Emberiza sulphurata, Temm. and Schlegel, Faun. Jap. Aves, p. 100, pl. 60 (1850); David and Oust. Ois. Chine, p. 330; Sharpe, Cat. B. Br. Mus. xii. p. 519.

Nojiko, Jap.

♂ *ad.* (Japan). A narrow line across the forehead, lores, and the chin black; crown and upper parts dark olive-grey, the crown washed with yellowish green, the mantle tinged with yellowish and streaked with black; wings and tail dark brown, the wing-coverts and secondaries broadly margined with warm buff and dull white, the two outer tail-feathers strongly marked with white oblique bands; under parts yellow, paler on the lower abdomen, the flanks striped with reddish brown; bill brown above, greyish below; legs clear brown; iris brown. Culmen 0·4, wing 2·7, tail 2·25, tarsus 0·7 inch. The female is duller and browner and lacks the black on the head. In the winter the male has the back washed with rufous and more boldly streaked with black.

Hab. Japan, wintering in southern China.

In general habits it is said to resemble *E. personata.* It breeds in Japan and is said to be the commonest Bunting on Fuji-yama, where it places its nest in the fork of a small bush about two feet from the ground, constructing it of grass, lined with horsehair or the seed-stalks of moss. The eggs usually 4 in number are deposited from the end of May to the early part of July, and closely resemble a common variety of those of the Garden-Warbler with dark spots.

510. CINEREOUS BUNTING.

EMBERIZA CINEREA.

Emberiza cinerea, Strickland, P.Z.S. 1832, p. 99 ; Gould, B. of Asia, v. pl. 8 ; Dresser, iv. p. 159, pl. 207 ; Sharpe, Cat. B. Br. Mus. xii. p. 529.

♂ *ad.* (Asia Minor). Crown, nape, and sides of head ashy grey, tinged with yellow ; upper parts brownish ash, the back darkly striped ; wings and tail blackish brown, the primaries margined with dull white, the secondaries and wing-coverts more broadly with warm buff, outer rectrices with the inner web terminally white, chin and throat clear yellow ; lower throat and upper breast ash-grey, tinged with yellow ; rest of under parts white, the flanks washed with grey ; bill dull horn-blue, legs fleshy brown ; iris dark brown. Culmen 0·5, wing 3·6, tail 3·1, tarsus 0·85 inch. The female is duller in colour, the head browner, striped with dark brown ; chin and throat yellow, with short dark stripes ; rest of under parts buffy white, the breast and flanks washed with ashy brown. The young bird is darker, and more distinctly striped, the under parts are pale brownish ash, striped and spotted with brown, the chin and throat washed with pale sulphur, the abdomen and under tail-coverts dull white, and has the inner secondaries broadly margined with buffy rufous.

Hab. Asia Minor, ranging east to Persia.

Affects rocky, mountainous districts where vegetation is scanty, and ranges high up into the conifer region; it is extremely shy and wary, and in its general habits is said to resemble *E. cæsia.* Its call-note is a short *küp*, and its song a succession of short strophes resembling the syllables *dir, dir, dir, dli-di*, variously modulated.

Although it appears to breed in some numbers near Smyrna, but one nest with eggs has, so far as I can ascertain, been as yet obtained, and is now in the Museum at Athens, but I possess one egg out of this clutch, which was obtained by Dr. Krüper near Smyrna on the 10th May 1889. It is white with a bluish tinge, somewhat sparingly marked with black spots and small blotches, and a few almost obsolete pale shell-spots or dots, the markings being chiefly at the larger end. In size it measures 0·81 by 0·61.

511. YELLOWHAMMER.

EMBERIZA CITRINELLA.

Emberiza citrinella, Linn. Syst. Nat. i. p. 309 (1766); Naum. iv. p. 234, Taf. 102, figs. 1, 2; Hewitson, i. p. 188, pl. xlvii. fig. 2 (egg); Gould, B. of E. iii. pl. 173; id. B. of Gt. Brit. iii. pl. 22; Newton, ii. p. 43; Dresser, iv. p. 171, pl. 209; Sharpe, Cat. B. Br. Mus. xii. p. 515; Tacz. F. O. Sib. O. p. 561; Saunders, p. 209; Lilford, iv. p. 26, pl. 14.

Bruant jaune, French: *Cerillo*, Span.; *Zigolo giallo*, Ital.; *Goldammer*, German; *Geelgors*, Dutch; *Gulspurv*, Dan. and Norw.; *Gulsparf*, Swed.; *Keltasirkku*, Finn.; *Obiknovennoi-ovsyanka*, Russ.

♂ *ad.* (England). Head and throat citron-yellow, the forehead, sides, and back of crown striped with blackish; mantle brown, striped with dark brown, the scapulars rufous-tinged; rump and upper tail-coverts bay, tinged with fulvous; wings and tail dark brown, with narrow, external yellowish margins, the wing-coverts margined with cinnamon and dull yellow, the two outer rectrices white on the terminal part of inner web; under parts citron-yellow, the upper breast and flanks mottled with cinnamon, the latter striped with brown; bill bluish; legs pale brown; iris dark brown. Culmen 0·45, wing 3·25, tail 2·75, tarsus 0·7 inch. Female duller, the yellow on the plumage fainter, the upper parts darker-streaked, the breast mottled with brown. In winter both sexes have the plumage more dingy, owing to the fulvous margins to the plumage.

Hab. Central and Northern Europe, north into Lapland, west to the Canaries; east in Asia as far as Krasnojarsk and Turkestan; in winter ranging as far south as North Africa.

Frequents groves, gardens, and fields where there are hedgerows or bushes, and is a resident in most parts of Europe except the high north, collecting in flocks in the autumn and ranging about the fields, or frequenting farm-yards in search of food. In the summer it feeds chiefly on insects, but in the autumn and winter on wild berries, grain, and seeds. Its well known simple but far from disagreeable song may be heard continually during the spring and summer later almost than any other bird, and even on fine, bright, winter days. Its nest is usually placed near or on the ground, in a bush or hedgerow, and is constructed of dry grass-stems, roots, moss, and occasionally fine twigs, lined with fine rootlets and hair. The eggs, which are deposited in May, June, or July, are usually 4 to 6 in number, dull white, sometimes with a russet tinge, covered with long hair-like streaks which have the appearance of having been drawn with a pen, and spotted and blurred with reddish purple, and measure about 0·86 by 0·64. Two broods are reared in the season.

Specimens have been obtained in the Ural, and on the Yenesei river, which have the throat chestnut as in *E. leucocephala* (cf. Ibis 1901, p. 453, pl. x) but whether they form only a variety or more I am as yet unable to say.

512. Cirl Bunting.

EMBERIZA CIRLUS.

Emberiza cirlus, Linn. Syst. Nat. i. p. 311 (1766); Naum. iv. p. 251, Taf. 102, figs. 3, 4; Hewitson, p. 190 pl. xlviii. fig. 2 (egg); Gould, B. of E. iii. pl. 175; id. B. of Gt. Brit. iii. pl. 23; Newton, ii. p. 50; Dresser, iv. p. 177, pl. 210; Sharpe, Cat. B. Br. Mus. xii. p. 525; Saunders, p. 211; Lilford, iv. p. 28, pl. 15.

Bruant zizi, French; *Sia*, *Sicia*, Portug; *Chilla*, Span.; *Zigolo nero*, Ital; *Zaunammer*, German; *Ogorodnaya-ovsyanka*, Russ.

♂ *ad.* (Spain). Crown, nape, and sides of neck olive-green, striped with black; mantle dark bay, striped with black; lower back, rump, and upper tail-coverts greenish grey, the last tinged with rufous; wings and tail, much as in *E. citrinella*, but the lesser wing-coverts olive-green; lores, ear-coverts, cheeks, and upper throat black; supercilium, cheek-patch, and a band across the lower throat lemon-yellow, fore-part of breast yellowish olive; sides of breast bay; flanks greyish brown, indistinctly striped; rest of under parts lemon-yellow; bill dark ashy brown; legs yellowish; iris brown. Culmen 0·4, wing 3·15, tail 2·8, tarsus 0·7 inch. The female lacks all black and yellow on the head, has only a sulphur supercilium, the chin and throat are tinged with yellow, and both upper and under parts are dark, streaked, the former on a brownish, and the latter on a yellowish buff ground.

Hab. Central and southern Europe; southern England, of doubtful occurrence in Scotland; once obtained in Ireland; south to Algeria, east to Asia Minor, Turkey, and south Russia; resident except in the northern portions of its range but winters in the south of England.

In its general habits it resembles *E. citrinella* and like that species frequents meadows and cultivated ground, in the winter ranging about the fields in search of food. Though not shy it is wary and unobtrusive. Its call-note resembles the syallables *zi-zi-zärr-zirr*, and its song resembles that of *E. citrinella* but is less melodious and lacks the final strophe. Its nest is placed in a furze- or other bush, or occasionally on a bank, and is constructed of grass-bents, rootlets, and moss, lined with rootlets and hair. Two broods are raised in the season, the first clutch of eggs being deposited in May and the second in July. These, 4 or 5 seldom 6 in number, are pale greyish white with a faint blue tinge marked with pale indigo brown and blackish brown stripes and hair-lines, and in size average about 0·89 by 0·66. The female and young of this species are distinguishable from those of *E. citrinella*, in having olive-green lesser wing-coverts.

513. YELLOW-THROATED BUNTING.

EMBERIZA ELEGANS.

Emberiza elegans, Temm. Pl. col. iii. pl. 583 (1835) ; id. et Schlegel, Faun. Jap. Aves, p. 93, pl. 55 ; (Gould), B. of As. v. pl. 12 ; Radde, Reis. Sud. Ost. Sib. Vög. p. 165, pl. 5 ; David and Oust. Ois. Chine, p. 322 ; Sharpe, Cat. B. Br. Mus. xii. p. 497 ; Tacz. F. O. Sib. O. p. 568 ; Seebohm, B. Jap. Emp. p. 137.

Hoang-mêy, Chinese.

♂ *ad.* (Japan). Crown, lores, sides of the head, chin, and a large patch on the upper breast deep black ; a narrow white line over the forehead and above the lores, widening into a broad yellow supercilium contiuued and meeting on the hind-crown ; hind-neck greyish ; back and wing-coverts chestnut-brown, streaked with black and margined with sandy white or buff ; rump, middle rectrices, and upper tail-coverts ashy grey, the rump with obsolete brown markings ; quills dark brown, with buff external margins ; tail-feathers, the central excepted, blackish brown, the two outer chiefly white ; throat yellow ; under parts below the black, white, the flanks striped with chestnut-red ; bill blackish horn ; legs flesh colour ; iris dark brown. Culmen 0·45, wing 2·9, tail 2·65, tarsus 0·75 inch. The female lacks the yellow on the head and throat, the black is hidden, being only at the base of the feathers, and the upper parts are brown.

Hab. E. Siberia ; Manchuria ; Japan, where it is probably resident ; wintering in China as far west as Moupin.

Frequents the outskirts of the forests, and is said to be by no means shy. Its call-note is said by Radde to resemble that of other Buntings, and its song is rich and melodious, it being described as the best songster of the Buntings. It breeds in Siberia, the nest being placed on the ground amongst bushes, and constructed of grass, rootlets, and plant-stems lined with hair and fine roots. The eggs 5 in number are deposited late in May and are white with pale violet shell-markings and brownish black small surface-spots, in size measuring about 0·75 by 0·59. They are not unlike the eggs of *E. leucocephala*, and lack the characteristic lines found on the eggs of most Buntings.

514. Yellow-browed Bunting.

EMBERIZA CHRYSOPHRYS.

Emberiza chrysophrys, Pall. Reis. Russ. Reichs, iii. Anhang, p. 698 (1776); Radde, Reis. S. Ost Sib. Vög. taf. iv. figs. 1*a*, *b*, *c*; Dresser, iv. p. 193, pl. 212; David and Oust. Ois. Chine, p. 325; Sharpe, Cat. B. Br. Mus. xii. p. 498; Tacz. F. O. Sib. O. p. 570.

Ta-huang-méy, Chinese.

♂ *ad.* (Siberia). Crown, nape, and sides of the head black; a narrow central line on the crown white; supercilium yellow; upper parts warm brown, streaked chiefly on the mantle with blackish; remiges and rectrices dark brown, with paler margins, the two outer rectrices obliquely marked with white; under parts white, the sides of throat, breast, and flanks striped with blackish brown; bill horn-grey, paler at the base and below; legs pale flesh; iris brown. Culmen 0·45, wing 3·1, tail 2·5, tarsus 0·75 inch. The female is duller in colour, more rufous on the upper parts, and more spotted on the under parts.

Hab. E. Siberia, wintering in China; has occurred twice in Belgium.

Frequents bush-covered localities, chiefly willow-thickets and has been met with in company with *E. pusilla*. Its call-note is softer and shriller than that of the other Buntings. Nothing is as yet known respecting its nidification.

515. Ortolan.

EMBERIZA HORTULANA.

Emberiza hortulana, Linn. Syst. Nat. i. p. 309 (1766); Naum. iv. p. 258, Taf. 103, figs. 1, 2, 3; Hewitson, i. p. 191, pl. xlviii. fig. 1; Gould, B. of E. iii. pl. 176; Newton, ii. p. 57; Dresser, iv. p. 185, pls. 211, 215, fig. 1; Sharpe, Cat. B. Br. Mus. xii. p. 530; Oates, F. Brit. Ind. Birds, ii. p. 259; Saunders, p. 213; Lilford, iv. p. 30, pl. 16.

Bruant-ortolan, French; *Hortelano*, *Ave-tonta*, Span.; *Ortolano*, Ital.; *Gartenammer*, German; *Ortolan*, Dutch; *Hortulan*, Dan. and Norw.; *Ortolansparf*, Swed.; *Peltosirkku*, Finn.: *Sadovaya-ovsyanka*, Russ.

♂ *ad.* (Finland). Head greenish grey; lores, throat, and a ring round the eye lemon-yellow; upper parts, wing-coverts, and secondaries fulvous brown, the back darker striped; the larger wing-coverts edged with fulvous white; rump yellowish brown; remiges and rectrices dark brown, with dull fulvous margins, the outer tail-feathers with large white apical patches; fore-breast yellowish green; rest of under parts tawny chestnut; bill dull flesh red, paler below; legs pale fleshy red; iris brown. Culmen 0·5, wing 3·6, tail 2·9, tarsus 0·75 inch. The female, especially when very old, differs but little from the male, but is somewhat duller and paler in colour. Young birds are dull pale rufous, closely streaked above and below with dark brown.

Hab. Europe generally, breeding as far north as south Varanger, and as far south as Algeria; Asia as far east as Afghanistan, Turkestan, and Gilgit; wintering in Africa as far south as Abyssinia. To England it is only a rare straggler, has occurred twice in Scotland and once ? in Ireland.

Frequents the outskirts of woods, bush-covered meadows, and fields, gardens when they are near the woods, fences and bushes on the roadsides and I often saw it sitting on barns and outbuildings, and in its general habits it reminded me much of *E. citrinella.* It feeds on insects and seeds, the young birds being fed on the former. Its song which is uttered from a bush, fence, stone, or the roof of a barn is *tink, tink, tink, tjörr* the last note prolonged and harsh. Nidification begins in May and the nest, which is constructed of grass-bents and rootlets sometimes lined with a few hairs, is placed on the ground, amongst grass or stones, or under bushes or large plants. The eggs 4 or 5 in number are pale ashy grey, sometimes with a russet tinge with pale purplish grey shell-markings and blackish brown surface-spots or blotches, with only occasionally a few hieroglyphic scratchy lines, and average about 0·77 by 0·61. In confinement it soon becomes very fat and in southern Europe numbers are netted and fattened for the table.

516. GREY-NECKED BUNTING.

EMBERIZA HUTTONI.

Emberiza huttoni, Blyth, J. A. Soc. Beng. xviii. p. 811 (1849); Dresser, ix. p. 215, p. 681; "*E. buchanani*, Blyth," Sharpe, Cat. B. Br. Mus. xii. p. 533; Oates, F. Brit. Ind. Birds, ii. p, 258; *E. cerrutii*, De Filippi Arch. per la Zool. ii. fasc. 2, p. 383 (1863); Gould, B. of As. v. pl. 11.

Jamjohara, Hind.

♂ *ad.* (Turkestan). Crown, nape, and hind-neck ashy grey; upper parts greyer than in *E. hortulana*, the under parts paler, the breast marked with pale chestnut, and the yellow on the head and throat replaced by greyish white. Culmen 0·5, wing 3·5, tail 2·9, tarsus 0·75 inch. The female differs only in being rather paler and duller in colour.

Hab. Transcaspia, rare as far west as the Caucasus and Crimea; Persia, Afghanistan, the Altai range, and Turkestan; wintering in the N.W. portions of the plains of India as far south as Khandála and Chanda, and east as Etawah.

In habits it appears to most nearly resemble *E. cæsia*, affecting rocky, uneven ground where there are bushes or low trees, and Dr. Finsch met with it in desolate rocky gorges in the mountains. Mr. Blanford found a nest in Persia about 70 miles south west of Kárman at an elevation of about 8,000 feet, on the 22nd. May, in a bush about a foot from the ground. It was constructed of moss, neatly and compactly made, and contained three eggs, very pale green in colour with small distinct rounded surface-spots, and minute dots of purplish black, and fainter purplish grey shell-markings, the latter confined chiefly to the larger end. In size they measure 0·9 by 0·65.

517. CRETZSCHMAR'S BUNTING.

EMBERIZA CÆSIA.

Emberiza cæsia, Cretzsch. in Rüpp. Atlas, p. 17, Taf. 10, fig. *b* (1826); Gould, B. of E. iii. pl. 181; Naum. xiii. 2 p. 172, Taf. 381, figs. 3, 4; Dresser, iv. p. 213, pls. 215, fig. 2, 216; Sharpe, Cat. B. Br. Mus. xii. p. 535.

Bruant cendrillard, French; *Ortolano-grigio*, Ital.; *Grauer Ortolan*, German.

♂ *ad.* (Asia Minor). Crown, ear-coverts, and nape, a narrow streak on each side of the throat, and a band across the upper breast clear blue grey; lores, a ring round the eye, a moustachial stripe, and throat pale chestnut-red; upper parts rufous brown, the back streaked with dark brown; wings and tail dark brown externally margined with rufous, the two outer rectrices white on terminal part of the inner web; under parts deep chestnut; bill reddish brown, paler below; legs and iris brown. Culmen 0·4, wing 3·4, tail 2·4, tarsus 0·6 inch. The female differs in being paler and duller in colour, the head and breast-band are striped with black, and the throat marked with small brown specks. Like all the Buntings, in the winter-dress the colours are obscured by the fulvous margins to the feathers.

Hab. South-east Europe, of rare occurrence as far west as Italy, S. France, and Algeria; Asia Minor; Palestine; as far east as the Caucasus; wintering in Arabia and N.E. Africa. It has also been obtained on Heligoland.

Frequents rocky localities, bare hill-sides, places covered with low scrub, and the borders of the desert. In general habits it is said to resemble *E. hortulana*, and its note is low, but cheery, often repeated like that of that species. The nest, which is placed on the ground under a grass tuft amongst stones, or in a low bush, is constructed of grass-bents, lined with fibres and horsehair, and is very neat and compact. The eggs 4 or 5 in number are dull white or pale reddish marked with pale purplish shell-blotches and blackish brown surface-spots and blotches, with but few scratches, and in general character approach nearest to those of *E. hortulana*. In size they average about 0·77 by 0·61.

518. PINE-BUNTING.

EMBERIZA LEUCOCEPHALA.

Emberiza leucocephala, Gmel. N. Com. Ac. Sc. Imp. Petr. xv. p. 480, tab. 23, fig. 3 (1770); Dresser, iv. p. 217, pl. 217; David and Oust. Ois. Chine, p. 329; Sharpe, Cat. B. Br. Mus. xii. p. 549; Oates, F. Brit. Ind. Birds, ii. p. 254; Tacz. F. O. Sib. O. p. 590, *E. pithyornis*, Pall. Reis. Russ. Reichs, ii. Anhang. p. 710 (1773); Naum. iv. p. 276, Taf. 104, fig. 3; Gould, B. of E. iii. pl. 180.

Fichtenammer, German; *Strenatka-beloshapotchnaya*, Russ.

♂ *ad.* (Siberia). Crown, nape, and a streak below the eye white; forehead, sides of the crown and a few streaks on the hind-crown, blackish; lores, sides of the head and neck and entire upper throat rich chestnut-red; upper parts pale chestnut, on the back and wing-coverts marked with blackish; wings and tail dark brown, with warm buff external margins, the two outer rectrices largely white; under parts white, on the breast and flanks blurred with pale chestnut; beak horn-brown, paler below; legs flesh coloured; iris dark brown. Culmen 0·5, wing 3·65, tail 3·2, tarsus 0·75 inch. The female lacks all chestnut on the head and throat, these being greyish with dark streaks, the throat whiter, and the breast and flanks are blurred and streaked with brown.

Hab. Siberia from the Ural to the Amoor, Manchuria; Mongolia; wintering in North China, the Himalayas down to Garhwal, Gilgit, Kashmir, and Afghanistan. A rare straggler to Europe, where it has been obtained in Turkey, Austria, Hungary, Italy, South France, and once on Heligoland.

Frequents the borders of the forests, old conifer woods, and bush-covered plains and fields, and is said to be not shy. In the autumn they collect in large flocks, and range about the open country and in the cornfields in search of food. The call-note is like that of *E. citrinella*, but the song is said to be unlike that of a Bunting, reminding one more of that of *Erithacus rubecula*, and is prolonged and melancholy, but not loud. Nidification commences in May, and the nest, which is placed on the ground under a bush or tussock, is neatly constructed of grass-bents and plant-stems, lined with hair. The eggs, 4 to 6 in number, are in character like those of *E. citrinella*, and are dull white, pale bluish white, or rose-white, with faint violet-grey shell-markings and marblings, and blackish brown surface-lines or spots, and in size average about 0·77 by 0·66.

519. Grey-headed Bunting.

EMBERIZA FUCATA.

Emberiza fucata, Pall. Reis. R. R. iii. p. 698 (1776); Temm. and Schlegel, Faun. Jap. Aves, pl. 57; Gould, B. of As. v. pl. 9; David and Oust. Ois. Chine, p. 325; Sharpe, Cat. B. Br. Mus. xii. p. 493; Oates, F. Brit. Ind. Birds, ii. p. 252; Tacz. F. O. Sib. O. p. 577, *E. lesbia*, Gmel. Syst. Nat. i. p. 882 (1788); Gould, B. of E. iii. pl. 178.

Putthur-chirta, Hind.; *Ho-aka*, Jap.

♂ *ad.* (Japan). Crown, hind-neck, and sides of neck grey, streaked with black; upper parts pale chestnut-red, blotched and streaked with black; wings and tail dark brown, with pale external margins, the two outer rectrices with large, oblique, white terminal patches; under parts white, the throat with lateral black blotches, which meet across the lower throat; ear-coverts and a band across the breast chestnut-red; flanks washed with buff and streaked with blackish brown; bill dark fleshy brown, paler below; legs pinkish; iris brown. Culmen 0·5, wing 2·85, tail 2·7, tarsus 0·8 inch. The female differs only in being somewhat duller in colour.

Hab. Eastern Siberia, Manchuria, Corea, Japan, China, Assam; wintering in Southern China and Burma; is said to have strayed to Europe.

Frequents open rocky places covered with low bushes, and is said not to be particularly shy. Its song is sweet and long, and it is said to be one of the best of the Siberian songsters amongst the Buntings. It arrives at its breeding haunts early in May and commences nidification in June. The nest is placed on the ground or in a bush within about a foot from the ground, and is built of fine grass-bents, lined with finer bents and a few feathers, and is but slightly constructed. The eggs, usually 5 in number, are pale greenish finely spotted with pale brick-red, without any scratchy lines, and measure about 0·79 by 0·60. The spots are sometimes scattered evenly over the surface of the shell and at others collected at the larger end.

520. SUBSP. EMBERIZA ARCUATA.

Emberiza arcuata, Sharpe, Cat. B. Br. Mus. xii. p. 494 (1888) ; Oates, Faun. Brit. Ind. Birds, ii. p. 253.

♂ *ad.* Differs from *E. fucata* in having the upper parts rather more rufous, the median and lesser wing-coverts chestnut, the scapulars chestnut, but slightly marked with black ; the chestnut band on the breast very broad, and the sides of the body chestnut. Culmen 0·45, wing 2·8, tail 2·55, tarsus 0·79 inch.

Hab. The Himalayas from Kashmir to Assam ; resident.

This appears to me after comparing a series of specimens to be a fairly good subspecies. In habits it does not appear to differ from *E. fucata.* It breeds in the Himalayas at from 6000 to 8000 feet altitude, in May, June, and July, constructing a saucer-shaped nest of dry grass, placed on the ground under shelter of a bush or stone, and deposits 4 eggs resembling those of *E. fucata,* being pale greenish grey speckled all over with dull reddish or purplish brown, and measure about 0·83 by 0·6.

521. JAPANESE GREY BUNTING.

EMBERIZA VARIABILIS.

Emberiza variabilis, Temm. Pl. col. iii. pl. 583, fig. 2 (1835) ; id. and Schlegel, Faun. Jap.. Aves, pl. 56 ; Tacz. F. O. Sib. O. p. 609 ; (Sharpe), Cat. B. Br. Mus. xii. p. 566.

♂ *ad.* (Japan). Upper parts dull sooty slate-grey, the back, scapulars and wing-coverts broadly striped, or blotched with black, some of these feathers margined with warm brown, the inner secondaries more broadly thus margined ; quills and tail blackish grey, with narrow brownish margins, the tail without any white ; under parts slate-grey, paler than the upper parts, the middle of the abdomen whitish slate-grey ; bill blackish brown, fleshy at the base below, legs brownish flesh ; iris brown. Culmen 0·55, wing 3·3, tail 2·75, tarsus 0·8 inch. The female has the crown and sides of the head dark reddish brown, with an indistinct central grey line, and a dull white supercilium and line on the sides of the throat ;

mantle warm brown, streaked with black, the lower back and rump deep chestnut; under parts buffy white, streaked with blackish brown, and in general appearance is very sparrow-like.

Hab. Kamchatka, Eastern Siberia, Behring and Askold islands; Japan.

I find nothing on record respecting its habits. It breeds in Kamchatka, and probably also in Northern Japan, but its nest and eggs are as yet unknown.

522. RUSTIC BUNTING.

EMBERIZA RUSTICA.

Emberiza rustica, Pall. Reise R. R. iii. p. 698 (1776); Gould, B. of E. iii. pl. 177; id. B. of Gt. Brit. iii. pl. 24; id. B. of As. v. pl. 10; Naum. xiii. 2 p. 180, Taf. 386, figs. 1, 2; Newton, ii. p. 29; Dresser, iv. p. 229, pl. 219; Sharpe, Cat. B. Br. Mus. xii. p. 490: Tacz. F. O. Sib. O. p. 572; Saunders, p. 217; Lilford, iv. p. 20, pl. 11.

Zigolo boschereccio Ital.; *Waldammer* German; *Videsparf*, Swed.; *Pohjansirkku* Finn.

♂ *ad.* (N. Russia). Crown and sides of the head black; an indistinct greyish white median stripe on the crown; supercilium and nuchal patch white; lower neck encircled by a bay collar; mantle reddish brown, marked with black, the feathers margined with buff; rump and upper tail-coverts rich bay; quills blackish brown, margined with buff; wing-coverts tipped with white, forming two alar bars; tail blackish brown, the two outer feathers with an oblique white terminal patch; under parts white, the flanks broadly streaked with deep bay; bill brown above, greyish yellow below; legs yellowish flesh; iris dark brown. Culmen 0·45, wing 3·1, tail 2·4, tarsus 0·8 inch. The female differs only in being duller in colour in having the black on the head less pure, and marked with buffy white. The young bird resembles that of *E. schœniclus*, but is more rufous in colour; the supercilium and nuchal patch are buffy white, and the bay band across the breast is obscured by buff; there is also a dark buff stripe through the middle of the crown.

Hab. N. E. Finland and N. Russia, ranging across Siberia; on passage and in winter in Japan, Mongolia, Manchuria, China, and Turkestan; has occurred as a rare straggler in Sweden, Heligoland, Germany, Austria, Italy, S. France, Holland, and has been obtained at least thrice in England.

Frequents the damp densely bush-covered portions of the forests, and is most difficult to procure, being very restless and active in its movements, continually flitting from tree to tree, or hiding in the dense underbush, On passage, and in winter it collects in large flocks and is seen on the birch trees, and amongst the bushes. Its call-note is not unlike that of the Redwing, and its song is described as being melodious and sweet. Like its congeners it feeds on insects and seeds. It breeds in N. E. Finland, N. Russia, and Northern Siberia, making a rather loose nest of wiry grass-bents and depositing in June 5 to 6 eggs greenish grey in colour with olivaceous brown blotches and without any scratchy lines, measuring about 0·78 by 0·58. Occasionally the ground colour is reddish in tinge.

523. LITTLE BUNTING.

EMBERIZA PUSILLA.

Emberiza pusilla, Pall. Reise Russ. Reichs, iii. p. 697 (1776) ; Naum. xiii. 2, p. 175, Taf. 382, figs. 3, 4 ; Gould, B. of Gt. Brit. iii. pl. 25 ; id. B. of Asia, v. pl. 7 ; Newton, ii. p. 4 ; Dresser, iv. p. 235, pl. 220 ; David and Oust. Ois. Chine, p. 323 ; Sharpe, Cat. B. Br. Mus. xii. p. 487 ; Oates, F. Brit. Ind. Birds, ii. p. 254 ; Tacz. F. O. Sib. O. p. 594 ; Saunders, p. 219 ; Lilford, iv. p. 22, pl. 12.

Zigolo minore, Ital. ; *Zwergammer*, German ; *Dwerggors*, Dutch ; *Dværgverling*, Dan. ; *Vähäsirkku*, Finn.

♂ *ad.* (N. Russia). Crown, nape, and sides of the head, including the ear-coverts and lores, chestnut-red ; sides of the crown extending behind the ear-coverts black ; upper parts greyish wood-brown, streaked with black, the rump greyer ; rectrices and remiges dark brown, margined with rusty buff ; the outer rectrix with a large and the second with a small white stripe ; chin rusty buff ; the rest of the under parts white, the breast spotted, the flanks striped with blackish brown, the latter slightly washed with buff ; bill horn-brown, paler below ; legs brown ; iris dark brown. Culmen 0·35, wing 2·8, tail 2·35, tarsus 0·75 inch. The female differs in being duller in colour, and in having the under parts more densely spotted.

Hab. N. Russia as far west as Onega, and east right across Siberia to the Amoor ; on passage, and in winter in Manchuria, Mongolia, China, Burma, the Andamans, the Himalayas from the Sutlej valley to Assam ; strays to Europe where it has been obtained in S. Sweden, Germany, Holland, Belgium, S. France, Italy, Austria, Turkey, Asia Minor, Syria, twice in Algeria, and has occurred twice in England.

Frequents the forest and also bush-covered plains, and is said to be tame and confiding in its habits. As a rule it appears like *E. rustica*, to prefer the damp portions of the forest. In the summer it feeds chiefly on insects, but in the autumn and winter on seeds. Its call- or alarm-note is a low *tick, tick, tick*, and its song is varied and melodious, not unlike that of the Redbreast. It breeds in N. Russia as far west as Onega, or probably Archangel, and in Siberia, placing its nest, which is constructed of dry grass sometimes lined with hair, on the ground amongst the grass and moss. The eggs 4 to 6 in number are usually deposited in June, and are subject to considerable variation, some resembling those of *E. miliaria*, others those of *E. schœniclus*, *E. spodocephala*, and *E. rustica*, but more brown in tinge. Those I have are pale grey with shell blotches of pale violet-grey and surface-blotches and spots of very dark grey, and measure about 0·74 by 0.55.

524. SIBERIAN MEADOW-BUNTING.

EMBERIZA CIOIDES.

Emberiza cioides, Brandt, Bull. Acad. Sci. St. Petersb. i. p. 363 (1843); Sharpe, Cat. B. Br. Mus. xii. p. 542; Tacz. F. O. Sib. O. p. 579; Tristram, Ibis. 1889, p. 293, pl. x.; Dresser, ix. p. 223, pl. 683; Lilford, iv. p. 32, pl. 17.

♂ *ad.* (Siberia). Crown, nape, and cheeks deep chestnut-red; supercilium and a short line below the eye white; lores and a line on each side of the throat below the chestnut, black; upper parts foxy chestnut, the back marked with black; least wing-coverts bluish ash, the other coverts, secondaries, and middle rectrices blackish brown, broadly margined with chestnut-red; primaries dark brown, narrowly margined with buffy white; the two outer tail-feathers mostly white; throat white; a broad chestnut band across the breast; rest of the under parts dull white, the flanks pale reddish-chestnut; bill plumbeous grey, paler below; legs fleshy brown; iris dark brown. Culmen 0·45, wing 3·4, tail 3·2, tarsus 0·72 inch. The female is duller and lacks the rich chestnut colour in the plumage, the crown is reddish brown, striped with black, the lores are brownish white, and the breast band is dull pale fox-red.

Hab. Siberia east of the Ural, Turkestan, Manchuria, Mongolia, Corea, and China, and has been once obtained in England.

Frequents the southern slopes of mountains and localities which are but sparsely covered with trees and bushes, and avoids the true forest. In the central portion of its range it appears to be a resident but a large number pass south from their northern breeding haunts. Nidification often commences in March but, as a rule, eggs are not found before May. The nest is a light but tolerably strong structure of dry grass-bents lined with finer bents, horse- or cattle-hair, and is placed on the ground in a depression and usually at the foot of a bush. The eggs 4 to 5 in number, resemble those of *E. cia* and have the ground colour white with a violet tinge, the larger end surrounded with a wreath of fine, dark brown, irregular lines, the rest of the surface being unmarked or marked with a few indistinct lines, some being in places widened so as to form a thick dark patch. Some eggs resemble those of *E. hortulana*, having thick spots and short streaks without having a distinct wreath. In size they average about 0·87 by 0·61.

The song of the Siberian Meadow-Bunting is said somewhat to resemble that of *E. schœniclus* and *E. miliaria*, and to be lower in tone than that of *E. aureola.* It consists only of two strophes but is pleasing and melodious.

Chinese specimens are as a rule rather smaller than those from Siberia and have been separated subspecifically by some ornithologists under the name *E. castaneiceps* Moore (P.Z.S. 1855, p. 215) but I cannot after a careful examination of a large series detect any constant difference in plumage. They are said to lack the small black spot on the chin, but this is the case in many Siberian specimens also.

525. JANKOVSKI'S BUNTING.

EMBERIZA JANKOWSKII.

Emberiza jankowskii, Tacz. Ibis. 1888, p. 317, pl. 8 ; id. F. O. Sib. O. p. 587.

♂ *ad.* Differs from *E. cioides*, in having the upper parts especially the crown paler, the sides of the head and face white, and not chestnut-red, the under parts paler and greyer, with a dull chestnut patch on the middle of the abdomen, and no chestnut pectoral band.

Hab. Sidemi, on the frontier of Corea and Chinese Manchuria. I have never seen this Bunting, and only know of one specimen, the type, which is in the Branicki collection at Warsaw.

526. JAPANESE MEADOW-BUNTING.

EMBERIZA CIOPSIS.

Emberiza ciopsis, Bp. Consp. i. p. 466 (1850) ; Sharpe, Cat. B. Br. Mus. xii. p. 544 ; Seebohm, B. Jap. Emp. p. 131 ; *E. cioides* (nec. Brandt), Temm. and Schlegel, Faun. Jap. Aves, p. 59, pl. 58.

Hojiro, Jap.

♂ *ad.* (Japan). Differs from *E. cioides* in having the crown blackish chestnut often marked with grey, the cheeks black, not chestnut, the upper parts browner, and the chestnut breast-band much paler. Culmen 0·4, wing 3·1, tail 2·9, tarsus 0·75 inch. The female very closely resembles that of *E. cioides*, but has the under parts paler, and like that bird has the ear-coverts dull chestnut-brown, but it generally lacks the dark malar stripe, which is present in the female of *E. cioides.*

Hab. Japan.

In habits and note it does not appear to differ from *E. cioides.* It places its nest either on the ground or else in a low bush, not above four feet above the ground, constructing it of dry plant-stems, and lining it with fine bents and hair. The eggs, usually four in number, are deposited from the middle of April to the middle of July, (two broods being apparently reared in the season), and are very like those of *E. cioides* both in colour, markings, and size.

527. CHINESE MEADOW-BUNTING.

EMBERIZA TRISTRAMI.

Emberiza tristrami, Swinhoe, P.Z.S. 1870, p. 441 ; David and Oust. Ois. Chine, p. 326 ; Sharpe, Cat. B. Br. Mus. xii. p. 545 ; Tacz. F. O. Sib. O. p. 575.

♂ *ad.* (China). Head and neck black ; a central line through the crown, supercilium, and a line from the base of the lower mandible down each side of the neck, white ; upper parts, wings, and tail as in *E. cioides*, but the wing-coverts are rather browner ; lower throat, breast, and sides of the body pale sandy rufous ; rest of the under parts white ; bill brown, yellowish below ; legs rufous flesh-coloured ; iris dark brown. Culmen 0·43, wing 2·85, tail 2·3, tarsus, 0·7 inch. The female differs in having the white streaks duller, the ear-coverts are pale brown with a few black streaks ; throat white streaked with black on the sides ; the rufous on the throat duller and streaked with brown.

Hab. Eastern Siberia, Corea, occurring on passage in Northern China and Manchuria ; wintering in southern and central China.

Inhabits the dense forests, and the male is said to have a very sweet song. It breeds in Dauria, the Ussuri country, and Corea, constructing a nest like that of *E. citrinella*, of plant-stems and grass-bents lined with horsehair, which is placed in a bush close to the ground. The eggs, which are deposited in June, resemble those of the Ortolan but are much smaller, in size averaging about 0·74 by 0·57.

528. White-capped Bunting.

EMBERIZA STEWARTI.

Emberiza stewarti, Blyth, J.A.S. Beng. xxiii. p. 215 (1854); Sharpe, Cat. B. Br. Mus. xii. p. 547; Oates, F. Brit. Ind. Birds, ii. p. 256; *E. caniceps*, Gould, B. of Asia, v. pl. 6 (1854).

♂ *ad.* (Himalayas). Crown, nape, and sides of the head greyish white; lores, a broad supercilium nearly meeting on the nape, chin, upper throat, and a streak on each side of the throat deep black; upper parts and lesser wing-coverts warm rusty red or pale chestnut, marked on the back with black; quills and tail blackish brown with narrow pale margins, the two outer rectrices with the inner web nearly all white; under parts white with a broad chestnut band across the breast; flanks slightly streaked with rusty brown; bill brown, paler below; legs fleshy pink; iris reddish brown. Culmen 0·4, wing 3·2, tail 2·8, tarsus 0·75 inch. The female has the forehead, crown, hind-neck, and back ashy brown streaked with dull black, the scapulars tinged with chestnut; rump and upper tail-coverts chestnut with paler margins, the shafts black; tail with rather less white; lores and orbital region fulvous; sides of neck and ear-coverts brown; rest of the under parts pale fulvous streaked with dull brown. In the winter dress like almost all the Buntings the feathers have brownish margins, the plumage being consequently much duller in colour.

Hab. Turkestan, Afghanistan; the Himalayas from the Hazara country, Gilgit, and Kashmir to about Almora; wintering on the plains of India; has been obtained in Sind.

In habits it is said by Jerdon to resemble *E. citrinella.* It breeds in Afghanistan, and in the Himalayas at an altitude of 5000 to 7000 feet, commencing nidification in April, the eggs being deposited in May and June. The nest which is placed in a bush close to the ground or on sloping banks or hillsides, is constructed of dry grass. The eggs 4 or 5 in number vary extremely both in size and colour, some being pale blue, thickly spotted with purplish brown and with a few irregular Bunting-like blotches and dashes; others are greyish white profusely spotted and speckled with reddish brown, and with deep purplish brown blotches. In size they average about)·78 by 0·59.

529. MEADOW-BUNTING.

EMBERIZA CIA.

Emberiza cia, Linn. Syst. Nat. i. p. 310 (1766); Naum. iv. p. 270, Taf. 104, figs. 1, 2; Gould, B. of E. iii. pl. 179; Dresser, iv. p. 205, pl. 214; Sharpe, Cat. B. Br. Mus. xii. p. 537.

Bruant-fou, French; *Trigueiro*, Portug.; *Cip-cip*, *Ave-tonta*, Span.; *Zigolo-muciatto*, Ital.; *Zipammer*, German; *Gornaya-ovsyanka*, Russ.

♂ *ad.* (Spain). Crown and nape blue-grey, the sides of the former, line enclosing the eye passing above the ear-coverts, and a moustachial streak black; supercilium greyish white; back warm fulvous streaked with dark brown; rump cinnamon; wings brown with dull white margins to the primaries, and broad cinnamon to the inner secondaries; lesser wing-coverts washed with blue-grey, the median tipped with white; tail blackish brown with cinnamon margins, the two outer rectrices chiefly white; throat, neck, and sides of the face pale bluish grey; breast and abdomen cinnamon, the middle of the latter greyish white; bill dull plumbeous; legs yellowish brown; iris dark brown. Culmen 0·5, wing 3·1, tail 3·0, tarsus 0·5 inch. The female is much duller in colour than the male. In the winter the colours of both sexes are obscured by fulvous margins to the feathers.

Hab. Central and southern Europe, west to Portugal, east to Asia Minor, Palestine, Persia, and Afghanistan, wintering in N. Africa.

In general habits it resembles *E. citrinella* but affects barren dry places and hill-sides where low bushes are scattered about. Its call-note *zi-zi-zi* is uttered from the top of a bush or rock, and its song is like that of *E. citrinella*, but if anything, somewhat clearer. It feeds on insects and seeds of various kinds, in the winter almost exclusively on the latter. Its nest is like that of the Yellowhammer and is placed on the ground usually amongst stones, and the eggs, 4 or 5 in number, are pale grey or buffy grey marked, chiefly round the larger end, with irregular blackish brown wavy lines which look as if drawn with a pen. In size they average about 0·82 by 0·65. The eggs are usually deposited late in May or in June.

530. SUBSP. EMBERIZA STRACHEYI.

Emberiza stracheyi, Moore, P.Z.S. 1855, p. 215, pl. 112; Sharpe, Cat. B. Br. Mus. xii. p. 539; Oates, F. Brit. Ind. Birds, ii. p. 257.

♂ *ad.* (Himalayas). Closely resembling *E. cia*, differing only in having the markings on the head white and not grey, the median and greater wing-coverts tipped with chestnut-brown and not with white, and the under parts are more rufous. Culmen 0·5, wing 3·31, tail 3·1, tarsus 0·75 inch.

Hab. Kashmir; the Himalayas from the Hazára country and Gilgit to Kumaun; Baluchistan; wintering on the plains of India.

This is merely an eastern form of *E. cia*, not differing from it in general habits. It breeds throughout the Himalayas west of the Ganges at from 4,000 to 9,000 feet elevation from April to August, the majority of eggs being deposited in May and June. The nest is placed on the ground, under or between stones, or at the base of a tuft of grass, or a bush, and is constructed of grass-stems lined with fine bents and hair. The eggs are greenish white scrawled with delicate blackish brown lines, usually collected round the larger end, and average about 0·83 by 0·63.

531. GODLEVSKI'S MEADOW BUNTING.

EMBERIZA GODLEWSKII.

Emberiza godlewskii, Tacz. J. f. O. 1874, p. 330; Sharpe, Cat. B. Br. Mus. xii. p. 542; Tacz. F. O. Sib. O. p. 589; David and Oust. Ois. Chine, p. 546.

♂ *ad.* (S.E. Siberia). Differs from *E. cia* in having the crown blue-grey with a central stripe and the supercilium dark chestnut, and no black on the head but on the lores and the forepart of a stripe below the cheek, which then becomes chestnut; the upper parts are rather more rufous, and the blue-grey extends somewhat further on the breast; beak brown, paler below; legs flesh-coloured; iris dark brown. Culmen 0·48, wing 3·65, tail 3·58, tarsus 0·72 inch. The female differs merely in being a trifle duller in colour and in having the crown finely striped with reddish brown.

Hab. Eastern Siberia, Manchuria, Eastern Turkestan, Mongolia, and China, ranging west to Yarkand and N. Kashmir.

Frequents the forests and mountains where brushwood is scattered about, and feeds on seeds of various kinds. It is said to be wary and difficult of approach. So far as I gather it has only been hitherto met with in the winter and its breeding haunts are unknown.

532. JAPANESE REED-BUNTING.

EMBERIZA YESSOENSIS.

Emberiza yessoensis (Swinhoe), Ibis, 1874, p. 161; Seebohm, Ibis, 1879, p. 39, pl. i. fig. 2; Sharpe, Cat. B. Br. Mus. xii. p. 486; Seebohm, B. Jap. Emp. p. 132.

♂ *ad.* (Japan). Head, neck, and throat black; supercilium, widening towards the back, buffy white; upper parts sandy rufous, the dorsal feathers, inner secondaries, and wing-coverts marked with black and margined with chestnut and creamy buff; primaries blackish brown with rufous buff margins; middle rectrices warm sandy brown, the rest blackish with much white on the outermost, dwindling to the third; under parts white, the flanks washed with sandy buff; beak dark horn; legs reddish brown; iris brown. Culmen 0·38, wing 2·5, tail 2·48, tarsus 0·72 inch. The female differs in being duller, the black on the crown and sides of the head marked with brown, and the throat white marked with black on the lower part.

Hab. Japan.

I do not find any particulars on record respecting the habits of this Bunting, which is peculiar to Japan, nor are its eggs known, but it breeds on Fuji-Yama.

533. REED-BUNTING.

EMBERIZA SCHŒNICLUS.

Emberiza schœniclus, Linn. Syst. Nat. i. p. 311 (1766); Naum. iv. p. 280, Taf. 105, figs. 1–4; Gould, B. of E. iii. pl. 183; id. B. of Gt. Brit. iii. pl. 29; Hewitson, i. p. 187, pl. xlvii. fig. 1; Newton, ii. p. 23; Dresser, iv. p. 241, pl. 221, pl. 222, fig. 1; Sharpe, Cat. B. Br. Mus. xii. p. 480; Oates, F. Brit. Ind. Birds, ii. p. 251; Saunders, p. 221; Lilford, iv. p. 18, pl. 10.

Bruant des roseaux, French; *Emberiza dos caniços,* Portug.; *Molinero, Teuladi de cañar,* Span.; *Migliarino di palude,* Ital.; *Rohrammer,* German; *Rietgors,* Dutch; *Rörspurv,* Dan. and Norweg.; *Säfsparf,* Swed.; *Kaislasirkku,* Finn.; *Balotnaya ovsyanka,* Russ.; *Cha-kuchkach,* Turki.

♂ *ad.* (England). Head, nape, and throat deep black; a white collar passes round the hind neck and joins a white stripe on each side of the throat; upper parts black, the feathers margined with ochraceous and bay, the wing-coverts and secondaries broadly margined with bay; quills blackish with narrow buff external margins; rump iron grey darkly streaked; rectrices blackish, the two outer ones chiefly white; under parts white, the flanks striped with dark brown; bill blackish brown; legs dull brown; iris brown. Culmen 0·4, height of bill at base 0·2, wing 3·3, tail 2·9, tarsus 0·8 inch. The female has the crown and sides of the head reddish brown marked with blackish brown; supercilium white; throat whitish; the collar on the hind neck nearly obsolete and the lower throat and upper breast marked with reddish brown. In winter the black on the head of the male is obscured by broad reddish brown margins to the feathers and the throat-feathers with dull white margins; upper parts are also more broadly margined with ochreous grey.

Hab. Europe generally as far north as Lapland; Asia as far east as Kamchatka and Japan; Mongolia, Manchuria, Turkestan; wintering in N.W. India and N. Africa.

Frequents river banks where there are large reed-beds or damp marshy localities overgrown with aquatic herbage, and is lively and active in its habits. Its call-note is a loud clear *tscheek*, and its song is loud but peculiar and stammering. In the summer its food consists chiefly of insects, and in the winter of seeds, chiefly those of aquatic plants. Nidification commences late in March or early in April, and the nest, which is placed in a damp place on the ground, rarely in a low bush, is constructed of grass flags and moss lined with fine grass, hairs, or the feathery tops of reeds. The eggs, 4 to 6 seldom 7 in number, are purplish clay coloured, marked with purplish brown or black spots and streaks, and average about 0·75 by 0·56.

This species is subject to considerable variation, especially in the form and size of the beak; so much so that intermediate forms are to be found showing a full gradation from the typical form to *E. pyrrhuloides*, except as regards colour, for the latter is always much paler than true *E. schœniclus*, and I am therefore only able to recognise it and *E. passerina* as subspecies. Dr. Sharpe, on the other hand (*l.c.*), places the thick-billed birds in a separate genus (*Pyrrhulorhyncha*) and makes three species of them, *P. palustris*, *P. pyrrhuloides*, and *P. pyrrhulina*.

534. SUBSP. EMBERIZA PASSERINA.

Emberiza passerina, Pall. Reise R.R. i. app. p. 456 (1771); Sharpe, Cat. B. Br. Mus. xii. p. 485; Tacz. F. O. Sib. O. p. 600; *E. polaris*, Midd. Sib. Reise, ii. p. 146, Tab. xiii. figs. 1–3 (1851).

♂ *ad.* (Siberia). Differs from *E. schœniclus* in being smaller, the white in the plumage much purer, the upper parts without any rufous, the margins to the feathers being white or creamy white; rump and upper tail-coverts white, the latter striped with pale ash. Culmen 0·38, wing 2·88, tail 2·45, tarsus 0·7 inch. The female differs from that of *E. schœniclus* in being paler, more sandy buff in tinge, the rump and upper tail-coverts are white and it is smaller.

Hab. E. Siberia, Turkestan on passage, wintering in Manchuria, Mongolia, and N. China. It also breeds in Corea.

In habits it does not differ from *E. schœniclus*, and its eggs resemble those of that species, but are smaller.

535. SUBSP. EMBERIZA PYRRHULOIDES.

Emberiza pyrrhuloides, Pall. Zoogr. Ross. As. ii. p. 49 (1811); Dresser, iv. p. 249, pl. 222, figs. 2, 3; (Sharpe) Cat. B. Br. Mus. xii. p. 475.

Kamichowaya ovsyanka, Russ.; *Karabash kuchkach*, Turki.

♂ *ad.* (Astrachan). Differs from E. *schœniclus* in being considerably larger, and paler, the dorsal feathers and middle rectrices with broad white margins, and the bill is much larger and stouter. Culmen 0·5, height of bill at base 0·32, wing 3·6, tail 3·32, tarsus 0·85 inch. In winter the colours on the head, neck, and upper parts are obscured by creamy ochreous margins to the feathers, and the under parts are slightly tinged with yellowish. The female resembles that of *E. schœniclus*, but is larger, paler, and has a much stouter bill.

Hab. Astrachan, Lake Aral, the mouths of the Volga and Ural rivers east to Yarkand.

In habits it does not appear to differ from *E. schœniclus*, and its nest and eggs resemble those of that species, but are larger.

UROCYNCHRAMUS, Prjev., 1876.

536. ROSE BUNTING.

UROCYNCHRAMUS PYLZOWI.

Urocynchramus pylzowi, Prjevalski, Mongol i Strana Tangut, ii. p. 99, Tab. xv. (1876); Gould, B. of As. v. pl. 32; Sharpe, Cat. B. Br. Mus. xii. p. 472.

♂ *ad.* (Mongolia). Crown and upper parts sandy brown striped with black; quills blackish brown margined with warm buff, the inner secondaries with fulvous brown; wing-coverts fulvous brown with broad reddish margins, the larger with sandy buff tips forming an alar band; central rectrices blackish brown, margined with dull white, the three or four outer ones rose-crimson tipped with white; lores, supercilium, cheeks, and under parts rosy red, fading nearly to white on the middle of the abdomen; tail much graduated; bill black above, yellowish below, with tip black; legs black; iris dark brown. Culmen 0·43, wing 2·75, tail 3·5, tarsus 0·87 inch. The female differs in having the under parts white, faintly tinged with rose on the breast; the throat, breast, and flanks streaked with black, and the outer tail-feathers are dull rose-white.

Hab. Kan-su and the upper parts of the Tetung river in Mongolia.

Frequents low dense bushes, chiefly those of *Potentilla tenuifolia*, in plains and valleys near rivers. It breeds in the Alpine regions north of the Tetung in May, but its nest and eggs are as yet unknown.

CALCARIUS, Bechst., 1802.

537. LAPLAND BUNTING.

CALCARIUS LAPPONICUS.

Calcarius lapponicus (Linn.), Syst. Nat. i. p. 317 (1766); (Naum.) iv. p. 318, Taf. 108; (Hewitson) i. p. 182, pl. xlvi. figs. 1, 2; (Audub.) B. Am. pl. 365; (Gould) B. of E. iii. pl. 169; (id.) B. of Gt. Brit. iii. pl. 30; (Newton) ii. p. 15; (Dresser) iv. p. 253, pls. 223, 225, fig. 1; Sharpe, Cat. B. Br. Mus. xii. p. 579; Tacz. F. O. Sib. O. p. 557; Saunders, p. 223; Lilford, iv. p. 16, pl. 9; Ridgw. p. 404; *C. calcaratus* (Pall.), Reis. R.R. ii. p. 710, pl. E. (1773).

Lerchen-Spornammer, German; *Ijsgors,* Dutch; *Lappsparf,* Swed.; *Narksarmiutak,* Greenl.; *Lapinsirkku,* Finn.; *Värri-cicas,* Lapp.

♂ *ad.* (N. Russia). Head, neck, throat, and sides of breast black, the side of the lower throat white; supercilium and a stripe down the sides of the neck white; lower neck and fore part of back rich chestnut-red; upper parts warm ochraceous and pale rusty red, broadly striped and blotched with black; remiges and rectrices blackish margined with warm buff, the two outer tail-feathers largely white towards the end; wing-coverts broadly margined with rufous; under parts white, the flanks striped with black; bill yellow, but black at the tip; legs black; the hind-claw elongated, straight, lark-like; iris dark brown. Culmen 0·5, wing 3·75, tail 2·6, tarsus 0·85, hind-toe with claw 0·85 inch. In winter the colours, especially the black, are obscured by buff margins to the feathers, the chestnut collar is obscured, and the head is marked with dull rufous. The female has the crown and back marked with brown, the chestnut collar is duller and marked with black, the throat and sides of the head are buff marked with black, and the upper parts have the margins to the feathers paler and broader.

Hab. N. Europe, Asia, and America, not far below the Arctic Circle, but not in Iceland or Greenland, straying south in winter to Central and Southern Scandinavia, rarely to Great Britain and continental Europe; wintering in Asia in Mongolia, Manchuria, and N. China; in America in the Northern United States and Canada.

In habits it resembles the true Buntings. On the ground it runs with ease, and though restless is not shy, and it frequently perches on shrubs and bushes. Its call-note resembles that of *P. nivalis*, but is higher in tone and not so strong, and its clear full song, which is uttered as it rises in the air and gently descends, is like that of a Reed Bunting. The nest, which is placed on the ground or in a low bush, is constructed of rootlets, grass-bents, and moss, and is always lined with feathers. The eggs, 5 to 6 in number, are usually deposited in June, and are olive-brown or greyish green with brown spots and blotches, sometimes with a few dark brown scrawling lines, and measure about 0·81 by 0·60.

PLECTROPHANES, B. Meyer, 1822.

538. Snow-Bunting.

PLECTROPHANES NIVALIS.

Plectrophanes nivalis (Linn.), Syst. Nat. i. p. 308 (1766); (Naum.) iv. p. 297, Taf. 106, 107; (Audubon) B. Am. pl. 189; Hewitson, i. p. 184, pl. xlvi. fig. 3; Gould B. of E. iii. pl. 170; id. B. of Gt. Brit.; Newton, ii. p. 1; Dresser, iv. p. 261, pl. 224, 225, fig. 2; (Sharpe) Cat. B. Br. Mus. xii. p. 572; Tacz. F. O. Sib. O. p. 550; Saunders, p. 225; Lilford, iv. p. 14, pls. 7, 8.

Ortolan de neige, French; *Schneeammer*, German; *Sneeuwgors*, Dutch; *Snespurv*, Dan. and Norweg.; *Snösparf*, Swed.; *Sniotitlingr*, *Sólskrikia*, Icel.; *Allap*, Lapp.; *Lumisirkku*, Finn.; *Podoroschnik*, Russ.

♂ *ad.* (Lapland). Back, primaries, except at the base, spurious wing, inner secondaries and scapulars, and central rectrices black; the rest of the plumage pure white; bill and legs black; iris dark brown. Culmen 0·45, wing 4·2, tail 2·5, tarsus 0·9, middle toe with claw 0·55 inch. The female differs in having the black feathers with white or buffy white margins. In the winter the head, neck, and upper parts are reddish buff or pale chestnut streaked and marked with black, the quills and tail-feathers blackish with warm buff margins, the secondaries chiefly white; under parts white, the flanks washed with rusty yellow and streaked with brown, the chest marked with rusty yellow.

Hab. The Arctic portions of both continents, breeding in the mountain ranges of Norway, Sweden, Greenland, Iceland, the Faroes, and Scotland, migrating south in winter to the Mediterranean (very rarely); Japan, Manchuria, and N. China; in America to the Northern United States; goes nearer to the Pole than any other Passerine bird.

In habits it resembles the Larks much more than the true Buntings, being usually seen on the ground, where it runs nimbly, hiding when alarmed, and only occasionally perching on trees or fences. Its call-note is a prolonged *tsee*, and its song is said to be a pleasant twittering warble often uttered on the wing. Its food consists of insects and seeds, the latter chiefly during the winter. It breeds in June, placing its nest, which is constructed of grass-bents and a little moss, lined with feathers or down, in the cleft of a rock or under a stone. The eggs, 5 to 6 in number, are bluish white marked with rusty brown or blackish brown spots and blotches, and measure about 0·82 by 0·65. Ridgway describes *s.n. P. nivalis townsendi* (Man. N.A. Birds, p. 403), a form from the Prybilof Islands, Alaska, Commander Islands, and Kamchatka; which he says is "larger with a much larger and longer bill" than *P. nivalis*, but I do not consider it as separable. But his *P. hyperboreus* (P. U.S. Nat. Mus. vii. p. 68, 1884), from Hall Island, St. Matthew's Island, and Alaska, differs in being pure white with only the tips of the five outer primaries, and the tips of the median rectrices black, and is undoubtedly a good species.

CERTHILAUDA, Swainson, 1827.

539. Bifasciated Lark.

CERTHILAUDA ALAUDIPES.

Certhilauda alaudipes (Desf.), Mém. de l'Acad. Roy. des Sciences, 1787, p. 504, pl. xvi.; Dresser, iv. p. 273; (Sharpe) Cat. B. Br. Mus. xiii. p. 518; Kœnig, J. f. O. 1895, p. 434, Tab. vii. fig. 5 (eggs); *C. desertorum* (Stanley), in Salt's Trav. Abyss. App. p. lx. (1814); Dresser, iv. p. 275, pl. 226; (Sharpe) tom. cit. p. 519; *C. bifasciata* (Licht.), Verz. Doubl. p. 27 (1823); Gould, B. of E. iii. p. 168.

Alouette bifasciée, French; *Múka*, Arabic.

♂ *ad.* (N. Africa). Upper parts pale sandy isabelline tinged with grey on the head and nape, the rump and upper tail-coverts paler; primaries white at the base, increasing inwards, otherwise blackish, the innermost tipped with white; secondaries white with a blackish central band; larger coverts tipped with white, the smaller margined with isabelline;

middle rectrices sandy isabelline, the rest blackish, the outermost with the outer web white; sides of the face marked with black; supercilium dull white; under parts white, the breast washed with grey and spotted with blackish brown; beak horn-brown; legs china-white; iris brown. Culmen 1·15, wing 4·7, tail 3·55, tarsus 1·3 inch. Sexes alike. The variation in colour is considerable, some specimens being much greyer than others, but the extreme of the grey and rufous forms are both found in N. Africa.

Hab. North Africa down to about 16° N. lat.; Cape Verde Islands; Arabia; Palestine, where it is rare; Persia; Afghanistan, Sind, and Cutch; is said to occur rarely north of the Mediterranean.

This is essentially a desert form, avoiding cultivated places and inhabiting only the sandy flat desert, and is always found singly or in pairs and never in flocks. Its flight resembles that of the Hoopoe, and on the ground it runs swiftly, like a *Cursorius.* Though usually seen on the ground it occasionally perches on a bush. It feeds on coleoptera and other insects, and on seeds. Its song, which consists only of three or four notes, is a melancholy querulous whistle. It is resident throughout its range and breeds in April. The nest, which is placed on the ground, is constructed of twigs of desert bushes and grass-bents, interwoven with spiders' webs and lined with cottony portions of plants. The eggs, usually 3 in number, are greyish white with pale ashy shell-blotches and clay-brown spots and dots which are more numerous at the larger end, and measure about 0·79 by 0·59.

540. DUPONT'S LARK.

CERTHILAUDA DUPONTI.

Certhilauda duponti (Vieill.), Faun. Franç. p. 173, pl. 76, fig. 2 (1820); Dresser, iv. p. 279, pl. 227; (Sharpe) Cat. B. Br. Mus. xiii. p. 526; *C. margaritæ*, Kœnig, J. f. O. 1888, p. 228, Taf. ii.

♂ *ad.* (N. Africa). Crown, nape, and upper parts rufous brown, the feathers margined with creamy buff or dirty white, those forming a mesial stripe, one above and behind each eye, and the sides of the nape with broad white margins; quills dark brown margined with white and creamy brown, the secondaries tipped, the inner ones margined on both webs, with pale creamy brown; middle rectrices pale reddish brown, the rest brown; the outermost chiefly white; a dark streak on each side of the throat, and the lower throat and breast spotted with brown and rufous; rest of under parts white; the sides of the head and lower breast washed with pale rufous and rufous buff ; flanks streaked with rufous ; bill curved and elongated, blackish brown ; legs pale reddish ; iris brown. Culmen 1·0, wing 4·0, tail 2·8, tarsus 0·87, hind-toe 0·37, hind-claw 0·38 inch.

Hab. The extreme south of the Iberian peninsula (where it is rare), Tunis, and the Algerian Sahara.

Frequents open places in the desert and feeds on insects and seeds. Its flight is strong, and its song is said to be pleasant. It is usually seen singly or in small families, never in flocks, and said to be rather shy and wary. Its nest is placed on the ground and is shallow, and the eggs, usually 4 in number, are dull white spotted with hair-brown, the spots being often collected round the larger end. In size they measure about 0·87 by 0·67.

I have compared specimens of Dr. Kœnig's *C. margaritæ*, and cannot separate it from the present species. Dr. Sharpe (*l.c.*) separates subspecifically, under the name *Chersophilus lusitanicus*, a form described by Prof. Barboza du Bocages as *Certhilauda duponti* var. *lusitanica* (Jorn. Lisb. 1887, p. 214) from Portugal, but it appears to me to be a very doubtful subspecies. I have, however, not been able to examine a specimen.

RHAMPHOCORYS, Bp., 1851.

541. Thick-Billed Lark.

RHAMPHOCORYS CLOTBEY.

Rhamphocorys clotbey, Bp. Comptes Rendus, xxi. p. 423 (1851) ; Dresser, iv. p. 383, pl. 242 ; Sharpe, Cat. B. Br. Mus. xiii. p. 527 ; Kœnig, J. f. O. 1895, p. 429, Tab. xiv. (Bird, nest, and eggs).

♂ *ad.* (N. Africa). Upper parts, scapulars, and smaller wing-coverts sandy isabelline, the crown greyer and indistinctly striped ; quills blackish brown, the secondaries terminated with white forming a large alar patch or band ; middle rectrices rufous isabelline, the rest white broadly tipped on the middle, narrowly on the outer ones, with dark brown ; sides of the head, face, and of the upper throat black ; with a streak below the eye, and a spot below the ear white ; chin, throat, and under parts white spotted with black on the breast and upper abdomen and with a long black central patch ; flanks and breast washed with isabelline ; beak and legs sandy brown, the beak very stout ; iris dark brown. Culmen 0·8, height of beak at base 0·5, width of mandible at base 0·37, wing 4·9, tail 2·8, tarsus 0·83 inch. The female differs from the male in being paler, the black less pure, and here and there washed with rufous buff.

Hab. Resident in the desert regions of Algeria and Tunis.

It is only found in the true desert, where it appears to affect the bases of the hillocks, and is generally met with in pairs or small family parties. Its flight is strong and it runs with great celerity. Its food consists of insects and small seeds. On the wing it utters a lark-like twitter or whistle, but I find no description of any song. It breeds in April, and the nest, which is placed in a depression on the ground under a bush, is constructed of grass-bents and plant-stems, lined with finer bents and occasionally with hair, and is large and well built. The eggs, usually 4 in number, are thin-shelled and fragile, cream-coloured with a pale apricot tinge, spotted all over with rusty red and rose-violet, and measure about 0·95 by 0·75.

OTOCORYS, Bp., 1838.

542. THE SHORE-LARK.

OTOCORYS ALPESTRIS.

Otocorys alpestris (Linn.), Syst. Nat. i. p. 289 (1766); (Wilson) Am. Orn. i. p. 85, pl. 5, fig. 4; (Naum.) iv. p. 149, Taf. 99; (Hewitson) i. p. 178, pl. xlv*; (Gould) B. of E. iii. pl. 164; id. B. of Gt. Brit. iii. pl. 18; Newton, i. p. 604; Dresser, iv. p. 387, pl. 243; Sharpe, Cat. B. Br. Mus. xiii. p. 541; Saunders, p. 259; Lilford, iv. p. 1, pl. 1; Ridgway, p. 348.

Lodola-gola-gialla, Ital.; *Berglerche*, German; *Bergleeuwerik*, Dutch; *Bjærglaerke*, Dan. and Norweg.; *Berglärka*, Swed.; *Tunturileivonen*, *Kello-lintu*, Finn.; *Ruossa-alap*, Lapp.; *Javronok-snejny*, Russ.

♂ *ad.* (Lapland). A band across the fore-crown and an elongated tuft on each side of the crown, lores and cheeks black; forehead and a stripe surrounding the ear-coverts pale sulphur yellow; hind-crown, nape, and upper parts pinkish brown, the back striped with brown; quills dark brown; wing-coverts pinkish brown, all margined and tipped with white; central rectrices reddish brown, the rest black margined with white; a large pectoral shield black, separated from the black on the head; chin and throat pale sulphur yellow; rest of the under parts white, the flanks streaked with brown and washed with reddish brown; bill greyish black, paler at the base below; legs blackish; iris dark brown. Culmen 0·65, wing 4·0, tail 2·8, tarsus 0·88, hind-toe with claw 0·6 inch. Female smaller and duller in colour. In the winter the colours are obscured by yellowish brown margins to the feathers and the yellowish colour is deeper.

Hab. Northern portions of both continents, in winter found in continental Europe, down to the Mediterranean (rarely), Great Britain, and in Asia to N. China; North-eastern North America, in winter south to the Carolinas, Illinois, &c.

Frequents like other Larks open places, stubble fields and fallow land, where in winter it roams about in flocks, feeding on grain and seeds, and is also often met with on the sea coast and is tame and tolerably easy of approach. It breeds in the north of Europe, Asia, and America; in Scandinavia on the fells, and in Finmark even on the seashore, nidification commencing in May, and two broods are generally reared in the season. Its call-note is beautiful, like the sound of a bell, and it is an excellent songster, its song somewhat resembling that of the Skylark, and is uttered when the bird is on the wing, but also when it is perched on a stone or on the ground. The nest, which is placed on the ground, is constructed of grass-bents and plant-stems lined with plant cotton or reindeer hair, and the eggs, 4 or 5 in number, are yellowish grey spotted with wood-brown surface-markings and a few indistinct grey shell-blotches, and occasionally with a few blackish lines. In size they average about 0·88 by 0·61.

543. ELWES'S SHORE-LARK.

OTOCORYS ELWESI.

Otocorys elwesi, Blanf. J.A.S. Beng. xii. pt. ii. p. 62 (1872); Sharpe, Cat. B. Br. Mus. xiii. p. 534; Oates, F. Brit. Ind. Birds, ii. p. 321; *O. penicillata* (nec. Gould), Jerdon, B. of Ind. ii. p. 431; *O. nigrifrons*, Prjev. Mongol i Strana Tangut. ii. p. 103 (1876); *O. teleschowi*, id. Ibis, 1887, p. 416; "*O. sibirica*, Eversm.," David and Oust. Ois. Chine, p. 316.

♂ *ad.* (Turkestan). Resembles *O. penicillata* in general plumage, differing in having the black on the throat separated from that on the ear-coverts by a white band; bill black above, pale at the base below; legs black, soles yellowish; iris brown. Culmen 0·63, wing 4·65, tail 3·5, tarsus 0·85 inch.

Hab. Turkestan, eastward to Mongolia and Northern China; Sikhim and the eastern Himalayas to Tibet.

Inhabits the mountain ranges, and is often to be met with at high altitudes. In general habits it does not appear to differ from *O. penicillata*, and its mode of nidification, nest, and eggs resemble those of that species.

544. SUBSP. OTOCORYS LONGIROSTRIS.

Otocorys longirostris, Moore, P.Z.S. 1855, p. 215, pl. 3; Sharpe, Cat. B. Br. Mus. xiii. p. 536; Oates, F. Brit. Ind. Birds, ii. p. 320.

♂ *ad.* Differs from *O. elwesi* in having a longer bill, in being larger in size, and as a rule, less vinous in tinge of colour; the feathers on the upper parts have larger shaft streaks, and the pale parts of the head are white and never yellow. Culmen 0·72, wing 5·0, tail 3·7, tarsus 0·95 inch.

Hab. The more elevated portions of the Himalayas from Kashmir and Ladak to Kumaon and the western portion of Tibet.

Frequents the more elevated portions of the Mountain ranges, occurring up to an elevation of 17,000 and 18,000 feet, and in general habits does not differ from *O. elwesi.*

545. SUBSP. OTOCORYS BRANDTI.

Otocorys brandti, Dresser, B. of E. iv. p. 402 (1874); Sharpe, Cat. B. Br. Mus. xiii. p. 536; *O. parvexi*, Tacz. Bull. Soc. Zool. Fr. 1876, p. 161; id. F. O. Sib. O. p. 423; ? *O. petrophila*, Severtz. J. f. O. 1873, p. 379; *O. albigula*, auctt. nec. Brandt.

♂ *ad.* (Kirghis Steppes). Differs from *O. elwesi* in being smaller, somewhat paler in colour and having a smaller and stouter bill. Culmen 0·52, wing 4·4, tail 3·3, tarsus 0·82 inch.

Hab. The Kirghis steppes, Turkestan, the Altai Mountains occurring east as far as Kiachta in the Transbaikal district.

In general habits it resembles *O. elwesi,* but appears to frequent the elevated steppes and sand deserts more than the mountain ranges.

546. ALGERIAN SHORE-LARK.

OTOCORYS BILOPHA.

Otocorys bilopha (Temm.), Pl. Col. iii. pl. 244, fig. 1 (1823); Dresser, iv. p. 399, pl. 245; Sharpe, Cat. B. Br. Mus. xiii. p. 537; Kœnig, J. f. O. 1895, Tab. x.; 1896, Tab. vii. fig. 8 (eggs).

Sebácha, Arabic.

♂ *ad.* (Algeria). Upper parts pale rufescent isabelline, more rufous on the wing-coverts and inner secondaries; the black on the head and breast as in *O. alpestris,* but the horn-like feathers are longer; quills greyish brown margined with isabelline white, the secondaries white-tipped; central rectrices like the back, the rest black, the outer feathers white on the outer web; chin, throat, and sides of the neck pure white; rest of the under parts white, the flanks washed with rufous isabelline; legs paler than in *O. alpestris.* Culmen 0·55, wing 3·8, tail 2·85, tarsus 0·82, hind-toe with claw 0·6 inch. The female has the black on the crown replaced by dark brown, the facial patch, pectoral shield, and crown-tufts smaller than in the male.

Hab. N. Africa from Algeria to Arabia, and is said to have occurred in Southern Spain.

Inhabits the elevated stony plateau land, more especially places where the *Helianthemum* flourishes, and is usually to be met with in solitary pairs in the summer, and in small bands in the winter, not in large flocks. Its call-note is a soft *tiri-tiri, tiri-tiri*, and its song, which is uttered from a stone or a hillock, is described as being pleasant and melodious. It breeds in April or May, the nest, which is constructed of grass-bents and plant-stems, worked together with spiders' webs, and lined with plant cotton and wool, is placed on the ground, frequently at the foot of a *Helianthemum* bush, in a depression scratched out by the bird itself. The eggs, 2 or 3 in number, are dull white or creamy white, spotted or marked with pale violet underlying shell- and clay-brown or reddish brown surface-markings, and in size average about 0·83 by 0·59.

547. ATLAS MOUNTAIN SHORE-LARK.

OTOCORYS ATLAS.

Otocorys atlas, Whitaker, Bull. B.O.C. vii. p. xlvii. (1898); id. Ibis, 1898, p. 604, pl. xiii.

♂ *ad.* "Resembles *O. elwesi*, but differs from that species in having the upper wing-coverts of a uniform sandy-brown colour, the same as the back, and not vinaceous, while the hind-crown and nape are of a rich rufescent hue, and the upper throat of a pale sulphur colour. The black of the lower throat and cheeks is distinctly separated by a yellowish white patch, as in *O. alpestris*, while the general colour of the upper parts, the black over the base of the bill, the bill itself, and the long hornlets are all as in *O. penicillata*. Iris brown; bill greyish black; legs black. Total length about 7 inches. Culmen 0·60, wing 4·45, tarsus 0·80 inch." (Whitaker.)

Hab. Atlas Mountains, N. Africa.

I have not had an opportunity of examining a specimen of this Shore-Lark, which appears to be a southern and western form of *O. alpestris*, closely allied to *O. elwesi*.

548. EASTERN SHORE-LARK.

OTOCORYS PENICILLATA.

Otocorys penicillata, Gould, P.Z.S. 1837, p. 126; Dresser, iv. p. 395, pl. 244; Sharpe, Cat. B. Br. Mus. xiii. p. 530; Oates, F. Brit. Ind. Birds, ii. p. 319; *O. scriba* (Bp.), Comp. List, p. 37 (1838); *O. albigula*, Bp. Consp. i. p. 246 (1850); *O. larvata*, De Filipp. Arch. Zool. Anat. etc. ii. p. 381 (1863).

♂ *ad.* (Persia). Differs from *O. alpestris* in having the upper parts paler, the whole of the neck, face, throat, and upper breast, except a patch covering the chin and upper throat, deep black ; a band across the base of the bill joining the lores also black ; and the throat patch is pure white, there being no yellow on the throat or head. Culmen 0·62, wing 4·6, tail 3·3, tarsus 0·85, hind-toe with claw 0·62 inch.

Hab. S.E. Europe, Asia Minor, the Caucasus, Palestine, Syria, Transcaspia, Persia, Turkestan, Afghanistan, and Gilgit; frequenting the mountains up to 12,000 or 15,000 feet in summer, descending to the plains in winter.

In general habits it resembles the Shore-Lark, and like that species runs on the ground with ease and great rapidity. It feeds on seeds and insects in summer and on the former only in winter. Its song is described as being rich and melodious. It breeds high up in the mountains at the edge of the snow, late in May, and the nest, which is placed on the ground, is constructed of dry plant-stems, bents, and portions of the flat leaves of a thistle, lined with finer bents; and the eggs, 4 to 5 in number, resemble those of *O. alpestris*, but are larger, measuring 0·95 by 0·71, and paler in colour, the markings being nearly obsolete in most specimens.

Dr. Sharpe recognises two subspecies, viz. *O. bicornis* (Cat. B. Br. Mus. xiii. p. 532) and *O. diluta* (*tom. cit.* pp. 533, 670); but after a careful comparison of specimens I cannot recognise either of these even as subspecies, as they are merely slightly paler varieties of *O. penicillata*, and indeed I failed to distinguish them from specimens from Erzeroom of true *O. penicillata.*

Like all birds whose range is very extensive, the Larks belonging to the genus *Otocorys* are subject to considerable, though often but very trifling, local variation, and in a review of the genus recently published (Proc. U.S. Nat. Mus. xxiv. pp. 801–884) Mr. Oberholser recognises as many as *thirty-six* species and subspecies.

MELANOCORYPHA, Boie, 1828.

549. CALANDRA LARK.

MELANOCORYPHA CALANDRA.

Melanocorypha calandra (Linn.), Syst. Nat. i. p. 288 (1766) ; (Naum.) iv. p. 127, Taf. 98, fig. 1 ; (Gould) B. of E. iii. pl. 162 ; id. B. of. Gt. Brit. iii. pl. 19; Newton, i. p. 646 ; Dresser, iv. p. 365 pls. 238, fig. 1, 239 ; Sharpe, Cat. B. Br. Mus. xiii. p. 551 ; Saunders, p. 258.

Calandre, French; *Alondra-calandria*, Span.; *Cochico*, Portug.; *Calandra*, Ital.; *Kalanderlerche*, German; *Bolchoi-stepnoi-Javronok*, Russ.

♂ *ad.* (Crimea). Crown, nape, and upper parts, including the lesser wing-coverts fulvous grey, the feathers dark brown in the middle; wings dark brown, the primaries narrowly, the secondaries broader margined with buffy white, the latter broadly tipped with white, the larger and median coverts margined with warm buff; middle rectrices brown, margined with fulvous buff, the rest blackish brown, the outer ones tipped with white, the two outermost almost all white; lores and supercilium dull white; chin, throat, and under parts white, on each side of the neck a large black patch; upper breast tinged with fulvous and streaked with brown; flanks washed with buffy grey; beak horn-brown, reddish at base below; legs reddish brown; iris dark brown. Culmen 0·75, wing 5·3, tail 2·8, tarsus 1·05 inch. The female is smaller, has the neck patches smaller, the neck spotted with black, and is generally more rufous in tinge.

Hab. Central and Southern Europe, N. Africa, Palestine, Asia Minor; east through Persia to Afghanistan and Turkestan; of doubtful occurrence in Great Britain.

Inhabits both the hills and plains, cultivated and wild fallow land, and is wild and wary. Its song is rich and melodious, and for that reason it is often kept as a cage bird. It is also said to be a good mimic. It feeds on insects, worms, and seeds, and is partial to dusting itself in the sand. Nidification commences in May, and two broods are generally reared in the season. In the summer it is found in pairs, and in the winter in small families, seldom or never in large flocks. The nest, which is placed on the ground, usually in a field or on a plain, is constructed of grass-bents, plant-stems, and rootlets, and the eggs, 4 to 5 in number, are buffy grey, dull white, or olive-green, with ash-grey shell and liver-brown or nut-brown surface-spots and blotches, and average about 0·95 by 0·72. Specimens from Albania and Dalmatia have the upper parts darker and the black on the neck more extended, almost confluent in front.

550. LONG-BILLED CALANDRA LARK.

MELANOCORYPHA MAXIMA.

Melanocorypha maxima, Gould, B. of As. iv. pl. 72 (1867); Sharpe, Cat. B. Br. Mus. xiii. p. 554; Oates, F. Brit. Ind. Birds, ii. p. 322.

Javronok-Velikan, Russ.

♂ *ad.* (Kan-su). Differs from *M. calandra* in being much larger and in having the black patches on the sides of the neck nearly obsolete;

upper parts, wings, and tail as in *M. calandra*, except that the quills are more broadly tipped with white and the plumage is darker; under parts white, the breast washed with ashy grey, and with a few faint brown spots; an obsolete dark patch on each side of the breast; bill long and slightly curved. Culmen 1·1, wing 6·05, tail 3·7, tarsus 1·15, hind-toe with claw 1·2 inch. The female is smaller and has a smaller bill. The young bird is nearly black above, the feathers margined with fulvous buff, the breast-feathers blackish margined with yellowish, the rest of the under parts pale yellow.

Hab. The elevated portions of Sikhim and Tibet to Kan-su and Koko-nor.

Inhabits the marshy meadows in the mountains, and in the winter collects in large flocks. Its song is very loud and said to be good, and the bird is an excellent mimic. Nothing is as yet known respecting its nidification.

551. EASTERN CALANDRA LARK.

MELANOCORYPHA BIMACULATA.

Melanocorypha bimaculata (Ménétr.), Cat. Rais. p. 37 (1832); Dresser, iv. p. 361, pl. 238, figs. 2, 3; Sharpe, Cat. B. Br. Mus. xiii. p. 555; Oates, F. Brit. Ind. Birds, ii. p. 323; *M. torquata*, Blyth, J.A.S.B. xvi. p. 476 (1847); Hume and Henders. Lah. to Yark. p. 265, pl. 27.

♂ *ad.* (Turkestan). Differs from *M. calandra* in being smaller and in lacking the white tips to the secondaries, and the white on the outer tail-feathers, and all but the central ones are conspicuously tipped with white, the black also extends across the breast; bill horn-brown, the under mandible yellowish, legs fleshy brown; iris dark brown. Culmen 0·7, wing 4·75, tail 2·5, tarsus 1·0 inch. Sexes alike.

Hab. N.E. Africa, Syria, Palestine, Asia Minor, the Caucasus, Transcaspia, Persia, Afghanistan, and Turkestan, Siberia as far north as Irkutsk, and Krasnoyarsk; wintering in Sind, Rajputana, Baháwalpur, the Punjab, the N.W. Provinces of India, and Oudh.

Frequents dry sandy localities, both cultivated and fallow, and stubble-fields. In the winter it collects in large flocks, and roams about the country in search of food, and it is said to be a somewhat shy and wary bird. Its song is loud and sweet, and it is a favourite cage bird with the Afghans. It places its nest, like *M. calandra*, on the ground, constructing it of grass-bents, and portions of dry plants, lined with the same, but somewhat finer, materials. The eggs, which are usually deposited in May, resemble those of *M. calandra* but are smaller, measuring about 0·9 by 0·67, and are as a rule greener in ground colour.

552. White-winged Lark.

MELANOCORYPHA SIBIRICA.

Melancorypha sibirica (Gm.), Syst. Nat. i. p. 799 (1788); Newton, i. p. 642; Dresser, iv. p. 373, pl. 240; Sharpe, Cat. B. Br. Mus. xiii. p. 557; Saunders, p. 257; *M. leucoptera* (Pall.), Zoogr. Ross. As. i. p. 518, Tab. 33, fig. 2 (1811); Gould, B. of Gt. Brit. iii. pl. 20; Lilford, iv. p. 12, pl. 6.

♂ *ad.* (Turkey). Crown, ear-coverts, lesser and median wing-coverts rusty red, the hind crown striped with brown; upper parts greyish brown striped with dark brown; upper tail-coverts ferruginous striped with dark brown; primaries and inner secondaries blackish brown margined and tipped with dull white; rest of the secondaries white; median rectrices broadly margined with rusty red, the outer one white, the next with the outer web white, the rest blackish brown; supercilium, chin, throat, and under parts white, the breast indistinctly spotted with brown and the flanks striped with rufous brown; beak brownish horn-yellowish at base; legs fleshy yellowish brown; iris brown. Culmen 0·6, wing 4·7, tail 2·9, tarsus 1·0 inch. The female differs only in being duller in colour.

Hab. Eastern and S. E. Europe; Asia as far east as the Yenesei, south to Transcaspia. A rare straggler to Italy, has been once obtained in Heligoland, three times in Belgium, and twice in the south of England.

Frequents grassy plains and open districts, and is said to resemble *A. arvensis* in its general habits, and like that species utters its song, which is very similar but shorter, when hovering in the air. Its nest is placed on the ground, in any slight depression in the soil, or under a tussock or tuft of grass; and late in April or early in May 3 to 5 eggs are laid, which are dirty grey, dull white or yellowish, spotted and blotched all over with dull hair-brown, but in some, the markings are collected and form a ring round the larger end. In size they measure about 0·91 by 0·67.

553. Mongolian Lark.

MELANOCORYPHA MONGOLICA.

Melanocorypha mongolica (Pall.), Reis. Russ. Reichs, iii. p. 697 (1776); (Radde) Reis. Sud. Ost. Sib. Vög. ii. p. 146, Taf. iii. fig. 1; David and Oust. Ois. Chine, p. 319, pl. 88; Sharpe, Cat. B. Br. Mus. xiii. p. 558; Tacz. F. O. Sib. O. p. 417.

♂ *ad.* (E. Siberia). Upper parts chestnut-brown, more rufous on the head and rump, the back, wing-coverts, and rump obscurely marked with darker rufous ; outer quills blackish with narrow paler margins ; inner primaries and secondaries white ; innermost secondaries dark brown margined with rufous and rufous buff ; tail brown, the outer feathers largely white ; under parts white, the flanks washed with rufous ; supercilium white, on the sides of the neck a large black patch narrowly joined in front ; bill flesh colour ; legs reddish brown ; iris brown. Culmen 0·78, wing 5·0, tail 3·3, tarsus 1·0 inch. In the winter the upper parts are more fulvous in tinge and the feathers have ashy margins ; the black on the neck is interrupted in the middle. Sexes alike.

Hab. Southern Dauria, Mongolia, and Manchuria ; N. China in the winter season.

Frequents the elevated plateaux and hilly steppes, and is a resident in most parts of its range, merely changing locality according to season. Its song is short, somewhat like that of the Skylark, and is usually uttered whilst the bird is in the air. This Lark is a good mimic, and often imitates the song of other species. Its flight is undulating and rapid, and though it is usually seen on the ground it will occasionally perch on a bush. Like its allies it feeds chiefly on seeds, and in the winter collects in large flocks and wanders about in search of food. Its nest is placed on the ground in a small depression in the soil, or in a grass tussock, and the eggs, which are deposited late in May or in June, are said to resemble those of the crested Lark, and in size average about 0·91 by 0·71.

554. Black Lark.

MELANOCORYPHA YELTONIENSIS.

Melanocorypha yeltoniensis (Forst.), Phil. Trans. lvii. p. 350 (1767) ; Dresser, iv. p. 377. pl. 241 ; Sharpe, Cat. B. Br. Mus. xiii. p. 559 ; *M. tartarica* (Pall.), Reis. R. Reichs, ii. Anhang. p. 707 (1773) ; Gould, B. of E. iii. pl. 161.

Javronok-tschernöi, Russ.

♂ *ad.* (S. Russia). Entire plumage jet black the feathers on the upper parts with narrow sandy margins here and there. Culmen 0·7, wing 5·3, tail 3·0, tarsus 1·0 inch. In the autumn the black is obscured by tolerably broad sandy margins to the feathers. The female has the upper parts pale sandy brown marked with dark brown, the rump and lower back rufescent ; rectrices and remiges blackish brown with narrow buffy white margins; under parts white, the lower throat and breast spotted, the flanks striped with blackish brown. The young male resembles the female, but the upper parts are darker and the under parts boldly blotched with black.

Hab. Southern Russia, Transcaspia, Western Siberia; east to Turkestan and north to Indirsk; is stated to have occurred in Belgium, Austria, and Pomerania.

Frequents the desert steppes and feeds on seeds of various kind, especially those of saline plants. In the winter it collects in large flocks, and is then often seen on roads, and near houses. Its call-note is low and piping, and its song somewhat resembles that of the Skylark, and is usually uttered when the bird is on the wing. Its nest is a careless structure placed on the ground, usually most carefully concealed, and the eggs 4 to 5 in number resemble those of *M. calandra* but are more boldly marked, and the ground colour is usually white. In size they measure about 0·91 by 0·75.

ALAUDA, Linn., 1766.

555. SKYLARK.

ALAUDA ARVENSIS.

Alauda arvensis, Linn, Syst. Nat. i. p. 287 (1766); Naum. iv. p. 157, Taf. 100, fig. 1; Hewitson, p. 176, pl. xlv. fig. 1; Gould, B. of E. iii. pl. 166; id. B. of Gt. Brit. iii. pl. 15; Newton, i. p. 614; Dresser, iv. p. 307, pl. 231; Sharpe, Cat. B. Br. Mus. xiii. p. 567; Oates, F. Brit. Ind. Birds, ii. p. 324; Saunders, p. 249; Lilford, iv. p. 3, pl. 2; *A. cantarella*, Bp. Comp. List. p. 36 (1838); *A. leiopus* vel *orientalis*, Hodgs. in Gray's Zool. Misc. p. 84 (1844); *A. japonica*, Temm. and Schlegel, Faun. Jap. p. 87, pl. 47, (1850); *A. triborhyncha*, Hodgs. apud Horsf. and Moore, Cat. ii. p. 467 (1858); *A. guttata*, Brooks, J.A.S.B. xli. pt. ii. p. 85 (1872); *A. blakistoni*, Stejn. Proc. Biol. Soc. Wash. ii. p. 98 (1884).

Alouette des champs, French; *Laverca*, Portug.; *Zurriaga*, Span.; *Lodola*, Ital.; *Heidelerche*, German; *Leeuwerik*, Dutch; *Sanglærke*, Dan.; *Lærke*, Norw.; *Sånglärka*, Swed.; *Kivenviha*, Finn.; *Polevoi-javronok*, Russ.

♂ *ad.* (England). Upper parts dark brown margined with fulvous and warm sandy buff; crown slightly crested; supercilium pale buffy white; quills dark brown narrowly margined with dull white; tail brown, the middle feathers greyish brown, the outer feathers nearly all white, the next with the outer web white; under parts buffy white, the flanks dusky, the throat speckled and the breast streaked with brown; bill brown above, dull flesh-colour below; legs yellowish brown; iris dark brown Culmen 0·6, wing 4·4, tail 2·8, tarsus 0·9, hind-toe with claw 1·05 inch. Sexes alike except that the female is slightly smaller. The young bird has the feathers margined with sandy buff and tipped with dull white on the upper parts, and the under parts are creamy buff streaked with brown on the breast.

Hab. Europe; from Northern Scandinavia to the Mediterranean; the Canaries, Madeira; North Africa and Asia Minor in winter; Asia as far east as the Pacific, and north to Kamchatka; in winter Afghanistan, Persia, Turkestan, North-West India and Northern China, Mongolia and Manchuria; the northern island of Japan in summer, resident in the southern island.

Frequents plains, fields, and open places, and in winter collects in large flocks ranging about the country in search of food, and throughout its range it appears to be a migrant. It feeds chiefly on seeds and grain, leaves of grass and of other plants, and in summer to some extent on insects. It is generally seen on the ground, hardly ever perching on a bush, or tree. It runs with ease and rapidity and its flight is easy, being a succession of slight undulations with short alternate cessations. Its song is usually uttered whilst the bird is hovering and circling high in the air, but is often continued after it has alighted, and is cheerful and protracted. It breeds in Europe as far north as Bodö, and possibly the Varanger fiord; sparingly in North Africa, and in Asia as far north as Kamchatka. The nest which is placed on the ground is constructed of straws and grass-bents lined with similar but finer materials, and the eggs 3 to 5 in number are dull grey or olive-grey, with pale purplish or light brown shell-markings and dark nut-brown surface-spots or blotches, which are frequently collected round the larger end and measure about 0·94 by 0·65.

The Skylark is subject to considerable variation in shade of colour, and has by many authors been separated into several subspecies of which I may mention *A. cantarella*, from the Mediterranean east to Persia, N.-W. India, Siberia and N. China. *A. guttata* and *A. leiopus* from Kashmir and the Himalayas. *A. blakistoni* from Kamchatka and E. Siberia and *A. japonica* from Japan, but all these intergrade *inter se* and with typical *A. arvensis*, so that I am unable to assign even subspecific rank to any of those forms or varieties.

556. INDIAN SKYLARK.

ALAUDA GULGULA.

Alauda gulgula, Frankl. P.Z.S. 1831, p. 119 ; Sharpe, Cat. B. Br. Mus. xiii. p. 575 ; Oates, F. Brit. Ind. ii. p. 326 ; Dresser, ix. p. 229, pl. 684 ; *A. cœlivox,* Swinhoe, Zool. 1859, p. 6723 ; *A. sala,* id. Ibis, 1870, p. 354 ; *A. wattersi,* id. P.Z.S., 1871, p. 389 ; *A. australis,* Brooks, Str. F. i. p. 486 (1873) ; *A. peguensis,* Oates, Str. Feath. iii. p. 343 (1875).

Bhurut, Hind. ; *Bee-lone* Burm. ; *Gomarita,* Cing.

♂ *ad.* (Transcaspia). Resembles *A. arvensis* but is greyer, has the under parts whiter, is smaller, and has the bill longer and more slender ; bill dark horn, fleshy pink at the base below ; legs fleshy brown ; iris brown. Culmen 0·65, wing 3·35, tail 2·0, tarsus 0·95, hind-toe with claw 0·84 inch. The female does not differ except in being smaller in size.

Hab. Transcaspia ; through India, Ceylon, and Burma to southern China and the Philippines.

In habits it resembles our Skylark and is found in cultivated land and also on the plains which are covered with short paddy and elephant-grass. In most of its range it appears to be resident. Its song resembles that of *A. arvensis,* and is usually uttered when the bird is circling in the air, and it is said to soar very high. Its mode of nidification is much the same as that of *A. arvensis.* The nest is placed in a depression on the ground, usually under shelter of a clod, tuft of grass or a bush, and is constructed of grass-bents, lined with finer grass, and like the Skylark it usually rears two broods in the year, from February to May, and from August to October. The eggs 3 to 5 in number are greyish or yellowish white, speckled, spotted, freckled, and sometimes blotched with pale yellowish or purplish brown or very pale inky purple, and in size average about 0·8 by 0·61.

557. WOODLARK.

ALAUDA ARBOREA.

Alauda arborea, Linn. Syst. Nat. i. p. 287 (1766) ; Naum. iv. p. 192 Taf. 100, fig. 2 ; Hewitson, i. p. 179, pl. xlv. fig. 3 ; Gould, B. of E. iii. pl. 167 ; id. B. of Gt. Brit. iii. pl. 16 ; Newton, i. p. 625 ; Dresser, iv. p. 321, pl. 232 ; (Sharpe), Cat. B. Br. Mus. xiii. p. 636 ; Saunders, p. 251 ; Lilford, iv. p. 8, pl. 4.

Alouette lulu, French ; *Cotovia,* Portug. ; *Totovia, Alondra de monte,* Span. ; *Tottavilla* Ital. ; *Baumlerche, Heidelerche,* German; *Boom-Leeuwerik*, Dutch; *Trælærke*, Norw.; *Hedelærke*, Dan.; *Trädlärka*, Swed.; *Mehtaleivo*, Finn.; *Youla*, *Liesnoi-Javronok*, Russ.

♂ *ad.* (England). Upper parts coloured as in *A. arvensis* but smaller, the crest fuller, the supercilium whiter and more pronounced, the outer larger wing-coverts are deep brown, but white at the base and tip; first primary much longer; tail short, the outermost feather with a grey terminal patch, the next two with a smaller white patch at the tip; breast more clearly striped than in *A. arvensis*; beak dark brown above, pale flesh coloured below; legs pale flesh brown; iris dark brown. Culmen 0·45, wing 3·9, tail 2·1, tarsus 0·8, hind-toe with claw 0·85 inch. The female resembles the male, and the difference in the winter plumage is merely that it is slightly more rufous on the upper parts.

Hab. Europe, from central Scandinavia to the Mediterranean, east to the Ural; the Caucasus and Transcaspia; in winter to Palestine and N. Africa, and it also breeds in the Atlas mountains. In Great Britain, as in most of its range, it is partly resident and partly migratory.

Frequents uncultivated ground, especially sandy localities and heaths where trees are scattered about, and is not found in woods. It is lively and sprightly in its habits, but more shy than the Skylark. In summer it feeds chiefly on insects but on seeds and leaves of plants at other seasons, and seeks its food on the ground, running with ease and celerity, and roosts, like the Skylark, on the ground, but perches more often on trees. Its song is sweet and flute like, and uttered when it has risen to some height in the air and is descending spirally, or when ascending and floating in the air. The nest is placed on the ground, usually well concealed, and is constructed of grass-bents, and moss, lined with finer bents, hair, and wool, and is more compact than that of *A. arvensis*. The eggs 4 to 5 in number are white, sometimes with a greyish or reddish tinge, finely spotted with reddish brown, olive-brown or dark nut-brown, and measure about 0·82 by 0·62. Two broods are usually reared in the season.

CORYDUS.

558. Crested Lark.

CORYDUS CRISTATUS.

Corydus cristatus (Linn.), Syst. Nat. i. p. 288 (1766); (Naum.) iv. p. 134, Taf. 99, fig. 1; (Hewitson) i. p. 178, pl. xlv. fig. 5; (Gould), B. of E. iii. pl. 165; id. B. of Gt. Brit. iii. pl. 17; (Newton), i. p. 632; (Dresser), iv. p. 285, pls. 228, 229; (David and Oust.), Ois. Chine, p. 317; (Sharpe), Cat. B. Br. Mus.

xiii. p. 628 ; (Oates), F. Brit. Ind. Birds, ii. p. 337 ; (Saunders), p. 253 ; (Lilford), iv. p. 6. pl. 3 ; *Galerita senegalensis*, (P.L.S. Müller), Syst. Nat. Suppl. p. 137 (1776) ; *G. theclæ*, Brehm., Naum. 1858, p. 210 ; *G. magna*, Hume, Ibis, 1871, p. 407 ; *G. macrorhyncha*, Tristr. Ibis, 1859, p. 57 ; Dresser, tom. cit. p. 301, pl. 235, fig. 2 ; *G. randonii*, Loche, Cat. Mam. and B. Alg. p. 85 (1858).

Cochevis-huppé, French ; *Cotovia de poupa*, Portug. ; *Cogujada*, *Carretera*, Span. ; *Capellaccia*, Ital. ; *Haubenlerche*, German ; *Kuifleeuwerik*, Dutch ; *Toplærke*, Dan. ; *Tofslärka*, Swed. ; *Cochlatyi-Javronok*, Russ. ; *Cubaha*, Moor. ; *Kobá*, Arabic ; *Chendul*, Hindu.

♂ *ad.* (Germany). Feathers on the crown much elongated forming a conspicuous crest; upper parts greyish brown marked with blackish brown ; supercilium buffy white ; wings and tail dark brown, margined with greyish brown and warm buff ; under parts white, the breast and sides of head and of the neck washed with buff, spotted and marked with blackish brown ; flanks streaked and washed with greyish brown ; under surface of the wing vinous buff ; bill dull yellowish brown ; legs pale fleshy brown ; iris dark brown. Culmen 0·75, wing 3·9, tail 2·5, tarsus 1·0 inch. Sexes alike. The young bird is paler, has the upper parts and the quills margined with buffy white and the crest is not developed.

This species is subject to considerable individual variation both in colour and size and has consequently been greatly subdivided by modern ornithologists. Dr. Sharpe in the Cat. B. Br. Mus. recognizes three species of Palæarctic Crested Larks, viz. ; *G. cristata*, *G. thecklæ*, and *G. isabellina*, but Mr. Hartert who uses trinomials, recognizes (Novit. Zool. iv. p. 142) seventeen subspecies, and Baron von Erlanger, following his lead, recognizes thirteen species and subspecies from N. Africa alone (J.f.O. 1899 p. 326), viz. *Galerita cristata kleinschmidti*, Erl., *G. cristata macrorhyncha*, *G. cristata arenicola*, (Tristr.), *G. cristata reichenowi*, *G. thecklæ thecklæ*, *G. thecklæ miramaræ* (Hom.), *G. thecklæ ruficolor*, Whitaker, *G. thecklæ harterti*, Erl., *G. thecklæ superflua*, (Hart.), *G. thecklæ deichleri*, Erl., *G. thecklæ carolinæ*, Erl., *G. thecklæ rüppelli*, Hart., and *G. thecklæ ellioti*, Hart. I am unable to recognise any of these forms as possessing specific value and agree with Dr. Sharpe, except that I cannot recognise *G. thecklæ* as separable, though this form is generally somewhat smaller, has the upper parts darker and clearly marked, and the under parts tinged with buff, the bill being also generally somewhat shorter and stouter.

Galerita being preoccupied in entomology, I cannot do otherwise than propose a new generic name, viz. that of *Corydus* (*κόρυδος* of Aristotle).

Hab. Europe generally, as far north as Southern Sweden; of rare occurrence in the British Islands; North Africa as far south as the Gambia; Asia from North Turkestan to Central India and east to China, not occurring as far north as Siberia. In Southern India a fairly separable form, *G. malabarica*, is resident.

Frequents plains, and to some extent also hilly districts, is often seen on roads, and in villages and towns, and affects inhabited localities, fields, and both cultivated and uncultivated places. Throughout its range it is a resident or a partial migrant, according to locality. Its call-note is a soft, low whistle, and its song, which is generally uttered whilst the bird is on the wing, but sometimes also when it is sitting on the ground, is clear, sweet, and well modulated. Its nest, which is constructed of grass-bents, weeds, rootlets, and is sometimes lined with a few horse-hairs, is placed on the ground, and usually in close proximity to human habitations, and the eggs, from 4 to 6 in number, are greyish white, sometimes with a brown or greenish tinge, and are marked with purplish grey or pale brown shell-blotches, and pale or dark brown surface-spots and blotches, and in size average about 0·91 by 0·62. They are deposited from the middle of April to the middle of June. The food of the Crested Lark consists chiefly of seeds of various kinds, but also of insects.

559. SUBSP. CORYDUS ISABELLINUS.

Corydus isabellinus, Bp. Conspect. i. p. 245 (1850); (Dresser), iv. p. 303, pl. 230, fig. 1; (Sharpe), Cat. B. Br. Mus. xiii. p. 635; (Kœnig.), J.f.O. 1895, Tab. vii; *G. abyssinica*, Bp. ut supra, (1850).

♂ *ad.* (N. Africa). Differs from *G. cristata* in being much paler, the upper parts being rufescent isabelline with faintly darker centres, the under parts white, the breast indistinctly spotted with pale sandy brown; bill brownish above, pale flesh colour below; legs pale flesh; iris brown. Culmen 0·62, wing 4·0, tail 2·7, tarsus 1·0 inch. The female is similar but a trifle smaller.

Hab. The desert portions of North Africa (Algeria, Tunis, and Egypt), ranging east as far as Abyssinia, everywhere resident.

Frequents the true desert and varies somewhat in tone of colour according to the nature of the soil. In general habits it resembles *G. cristata*, but its song is described as being infinitely superior to the song of that bird. Its eggs are bluish white in ground colour marked all over with pale ash, clay-yellow and blackish brown spots and blotches, and are usually deposited in May.

CALANDRELLA, Kaup, 1829.

560. SHORT-TOED LARK.

CALANDRELLA BRACHYDACTYLA.

Calandrella brachydactyla (Leisl.) Wetter. Annal. iii. p. 357, Tab. xix. (1814) ; (Naum.) iv. p. 188, Taf. 98, fig. 2 ; (Gould), B. of E. iii. pl. 163 ; id. B. of Gt. Brit. iii. pl. 21 ; (Hewitson), i. p. 181, pl. xlv. fig. 4 ; Newton, i. p. 637 ; Dresser, iv. p. 341, pl. 235 ; Sharpe, Cat. B. Br. Mus. xiii. p. 580 ; Tacz. F. O. Sib. O. p. 415 ; Oates, F. Brit. Ind. Birds, ii. p. 327 ; Saunders, p. 255 ; Lilford, iv. p. 9, pl. 5 ; *C. kollyi*, (Temm.) Pt., col. iii. pl. 305, fig. 1. (1824) ; *C. hermonensis*, Tristr. P.Z.S., 1864, p. 434 ; *C. dukhunensis* (Sykes), P.Z.S., 1832, p. 93 ; *C. tibetana*, Brooks, Str. F. 1880, p. 488 ; *C. acutirostris*, Hume and Henderson, Lah. to Yark., p. 265 (1873).

La Calandrelle, French ; *Carreirola*, Portug. ; *Terrera*, Span. ; *Calandrino*, Ital. ; *Isabelle-Lerche*, German ; *Maloui-Javronok*, Russ. ; *Baghaira*, Hindu.

♂ *ad.* (S. Europe). Upper parts rufous sandy brown streaked with blackish brown ; superciliary streak creamy white ; quills blackish brown, the outer web of first quill creamy white ; secondaries and wing-coverts margined with creamy buff, the inner secondaries much elongated nearly reaching the tip of the wing ; middle rectrices dark brown margined with rufous buff ; outer rectrices with the outer web and terminal portion buffy white or white ; remaining tail-feathers blackish brown ; under parts white ; breast washed with buff ; a blackish brown patch on each side of the upper breast ; flanks washed with buff ; bill dull horn-brown, paler below ; legs pale brown ; iris dark brown. Culmen 0·4 to 5, wing 3·5 to 3·75, tail 2·4 to 2·6, tarsus 0·75 to 0·8, hind-toe with claw 0·55, 0·6 inch. Sexes alike except that the female is somewhat smaller. The young bird has the upper parts variegated with light reddish brown, black and white, the elongated inner secondaries with a purplish gloss, tail tipped with pale buff.

Hab. Central and Southern Europe; North Africa; Asia east to Lake Baikal; Mongolia and North China, south to Northern India in winter; of rare occurrence in England and also on Heligoland. In the southern part of its range it is chiefly resident.

Frequents the lowlands, in summer chiefly sandy plains, and is tame and confiding in its general habits. Its song is short and not of a high quality, and is uttered either when the bird is on the wing or when perched on a clod or stone. Its food consists chiefly of small seeds of various kinds. In winter it collects in large flocks and ranges about the fields or plains in search of food. Its nest, which is placed on the ground in a hoof-print or any depression in the soil, usually at the foot of a tuft of grass or a low bush, is a rather loose structure of grass-bents, lined with wool or feathers, and sometimes hair. The eggs, 4 to 5 in number, are usually deposited in May, and are dull white dotted or blurred with hair brown, and measure about 0·77 by 0·62.

Dr. Sharpe recognizes *C. dukhunensis*, *tibetana*, and *acutirostris* as separable from *C. brachydactyla*, *C. dukhunensis* as being larger and generally more rufous; *C. tibetana* as being usually greyer in tone of colour, and having more white on the outer tail-feather; and *C. acutirostris* in being also greyer, but having less white on the outer tail-feathers, but I cannot find that these small differences hold good in a series, and therefore prefer uniting all with *C. brachydactyla.*

561. Lesser Short-toed Lark.

CALANDRELLA MINOR.

Calandrella minor (Cab.), Mus. Hein. i. p. 123 (1850); Dresser, iv. p. 349, pl. 236, fig. 1; (Sharpe), Cat. B. Br. Mus. xiii. p. 588; *C. reboudia*, (Loche), Cat. Mam. and Ois. Algér, p. 83 (1858).

Silǒa, *Tliesch*, Arab.

♂ *ad.* (Algeria). Differs from *C. brachydactyla* in having much shorter secondaries, usually 0·75 to 1·0 inch shorter than the longest primary, and in lacking the blackish patch on each side of the breast, this being spotted or narrowly striped with dark brown; soft parts as in *C. pispoletta.* Culmen 0·45, wing 3·5, tail 2·05, tarsus 0·73 inch.

Hab. Canary Islands; North Africa east to Egypt, Palestine, and the countries bordering the Persian Gulf; has occurred in Malta and Italy as a rare straggler.

Frequents dry arid plains and is as a rule shy. Throughout its range it appears to be a resident, and after the breeding season collects in small flocks, and wanders about the country in search of food, which consists of seeds of various kinds and also to some extent of insects. Its nest is placed on the ground, usually in a tussock of grass or under the shelter of a stone, and is constructed of dry grass-bents. Its eggs, which are deposited from April to June, usually 3 in number, are dull white with a creamy tinge, spotted and blotched with dull brown or dark clay-coloured surface-marks, and violet-grey shell-blotches, and in size average about 0·82 by 0·65. Its song, which is exceedingly sweet and melodious, is uttered whilst the bird is on the wing.

Examples from the Canaries have the upper parts rufous brown, and the breast more strongly spotted, and have been separated by Mr. Hartert (Bull, B.O. Club xi, p. 64) under the name of *Calandrella pispoletta canariensis.*

562. ANDALUCIAN SHORT-TOED LARK.

CALANDRELLA BÆTICA.

Calandrella bœtica, Dresser, B. of E. iv. p. 351, pl. 236, fig. 2 (1873); (Sharpe), Cat. B. Br. Mus. xiii. p. 588.

Cujailla, Marismeña, Span.

♂ *ad.* (Andalucia). Upper parts darker than in *C. minor*, and lacking all tinge of rufous, and the throat, breast, and flanks broadly spotted and striped with deep blackish brown, beak horn brown, yellowish at base below; legs dull brown; iris brown. Culmen 0·45, wing 3·4, tail 2·05, tarsus 0·8, hind toe with claw 0·6 inch.

Hab. Southern Spain.

Inhabits the marismas of southern Spain where it is a common bird, and is not shy. Its song like that of *C. minor* is melodious, and is generally uttered during short flights. It is said also to mimic the notes of other birds. The nest, which is constructed of dry grass and rootlets with a few feathers in the lining, is placed on the ground, and is better constructed than that of *C. brachydactyla.* The eggs, which are deposited in April or May, are boldly marked with pale purplish brown shell-spots, and dark hair-brown surface-blotches, and in size measure about 0·83 by 0·62.

563. PALLAS' SHORT-TOED LARK,

CALANDRELLA PISPOLETTA.

Calandrella pispoletta (Pall.), Zoogr. Ross. As. i. p. 526 (1811); Dresser, iv. p. 355, pl. 237; (Sharpe), Cat. B. Br. Mus. xiii. p. 587; *C. cheleensis* (Swinh.), P.Z.S. 1871, p. 390; *C. heinei* (E. von Homeyer), J. f. O. 1873, p. 197; *C. persica* (Sharpe), op. cit. p. 590.

♂ *ad.* (Volga). Upper parts dark earth grey, striped with blackish brown and without any tinge of rufous; secondaries fully an inch shorter than the longest primary; outer rectrices white, with a broad brown stripe on the inner web, the next with the outer web only white; under parts white, the breast tinged with buff, and finely striped with dark brown;

flanks washed with brown and striped with darker brown ; beak dull horn, paler at the base below ; legs pale brown ; iris dark brown. Culmen 0·5, wing 3·85, tail 2·5, tarsus 0·85, hind toe with claw 0·6 inch.

Hab. Asia Minor, S. Russia, Persia, Afghanistan, the Punjab, east to China.

Inhabits the desert portions of the steppes where it is numerous, and in general habits is said to resemble *C. brachydactyla.* I do not find any description of its song except that it is said to be of a high order. Its food, like that of its congeners, consists of seeds of various kinds and of insects. Its nest is loosely constructed of dry grass bents without any regular lining, and is placed on the ground. The eggs, usually 3 in number, are deposited in April or May, and resemble those of *C. brachydactyla* but are a trifle larger, have a clearer and paler ground colour, and the spots are rather darker and more clearly defined.

564. PALE SHORT-TOED LARK.

CALANDRELLA LEUCOPHÆA.

Calandrella leucophæa, Severtz. Turk. Jevot. p. 142 (1873) ; Dresser, iv. p. 343 ; (Sharpe), Cat. B. Br. Mus. xiii. p. 593 ; *Alaudula seebohmi*, Sharpe, tom. cit. p. 590 (1890).

♂ *ad.* (Turkestan). Differs from *C. pispoletta* in having the upper parts sandy grey, somewhat indistinctly striped with pale brown, and the underparts white, the breast faintly striped with pale brown. Culmen 0·45, wing 3·85, tail 2·65, tarsus 0·8 inch.

Hab. The Kirghis steppes and Turkestan, east to Mongolia; in India it is replaced by a nearly allied species, *Calandrella* or *Alaudula adamsi* Hume, which is smaller and has a proportionately smaller beak.

In habits it appears to resemble *C. pispoletta*, except that it affects sandy desert localities in preference to cultivated and fertile ground. Its nest and eggs are as yet unknown, but will doubtless be found to resemble those of *C. adamsi* which builds a nest on the ground like that of *Corydus cristatus* but smaller, and deposits 2 to 3 eggs dull white spotted and mottled with pale greenish brown.

Alaudula seebohmi, I may add, is usually slightly more rufous in tinge than specimens from Turkestan, but some specimens are greyer than others, and I cannot separate it from the present species.

AMMOMANES, Cab., 1850.

565. Desert-Lark.

AMMOMANES DESERTI.

Ammomanes deserti (Licht.), Verz. Doubl. p. 28 (1823); Dresser, iv p. 329, pl. 233; Sharpe, Cat. B. Br. Mus. xiii. p. 646; *A. phœnicuroides* (Blyth), J. A. S. Beng. xxii. p. 583 (1853); Sharpe, tom. cit. p. 647; *A. fraterculus* Tristr., P.Z.S. 1864, p. 434; *A. algeriensis*; Sharpe, tom. cit. p. 645.

♂ *ad.* (Egypt). Upper parts varying from warm rufescent isabelline to greyish sandy isabelline; supercilium indistinct, sandy isabelline; quills and tail brown externally, margined with sandy rufous, the middle tail-feathers like the back; under parts pale isabelline, the throat sometimes with indistinct darker markings; legs pale greenish slate; iris brown. Culmen 0·6, wing 3·9, tail 2·8, tarsus 0·85 inch. Sexes alike. The young bird is generally more rufous, and has the basal portion and the margins of all the tail feathers pale ferruginous, with only the terminal portion dark brown.

Hab. North Africa, south to Abyssinia; Palestine, east to Afghanistan, Sind, and the northern Punjab.

Essentially a desert bird it is usually to be found in sandy, wild localities where its plumage assimilates in colour with the soil. In its general habits it most nearly resembles the Crested Lark and is often to be found seeking its food on the roads. Its flight is weak and it seldom flies any distance. Its song is agreeable but not varied and is uttered when the bird is on the wing, often at a considerable altitude. Its food consists of seeds of various kinds and insects. Its nest, which is loosely constructed of grass-bents, is placed on the ground, under a low bush or a tuft of grass, and the eggs 3 or 4 in number are deposited in April or May, and are creamy grey or white, closely marked with purplish grey shell-markings and dull brown surface-spots and measure about 0·87 by 0·62.

In general coloration the species varies from rufous to greyish rufous, and the latter variety has been separated by several authors under the name *Ammomanes fraterculus*, but it seems to me without just reason. Nor can I recognise *A. algeriensis* which is the rufous form, as distinct. *A. phœnicuroides* from India belongs to the grey form, and has the quills narrowly margined with warm ashy fulvous, and not so rufous as in *A. deserti*. It has also been treated as distinct, but it appears to me that it should be united with the present species.

566. GOULD'S DESERT-LARK.

AMMOMANES CINCTURA.

Ammomanes cinctura (Gould), Voy. Beagle, Birds, p. 87 (1841); Dresser, iv. p. 335, pl. 234; Sharpe, Cat. B. Br. Mus. xiii. p. 644, *A. arenicolor* (Sund.), Öfv. V. Ak. Förh. 1850, p. 128; *A. elegans* (C. L. Brehm), Vogelf. p. 122 (1855), *A. regulus* (Bp.), Compt. Rend. xliv. p. 1066 (1857).

♂ *ad.* (Malta). Differs from the rufous isabelline form of *A. deserti* in being smaller, and having the tail terminated by a blackish brown band, upper parts warm rufous isabelline, rather more rufescent than in *A. deserti*; primaries dusky brown at the ends; bill greyish horn; legs pale greyish; iris brown. Culmen 0·48, wing 3·5, tail 2·2, tarsus 0·82, hind toe with claw 0·42 inch.

Hab. Cape Verde Islands; the whole of the desert region of N. Africa; Arabia, Persia; has once occurred at Malta.

In habits it is said to resemble *A. deserti*, and is an inhabitant of the stony portions of the desert regions, where it feeds on small seeds and to some extent on insects. Its song is weak but shrill, and is generally uttered when the bird is floating in the air. It breeds in the Cape Verde Islands from December to March, and in N. Africa late in April. The nest which is placed on the ground under shelter of a stone or bush and surrounded with small stones is constructed of grass-bents and plant-stems, lined with a little wool and small pieces of rag when obtainable. The eggs, 2 to 3 in number, are white, or apricot pink when fresh and unblown, finely spotted, chiefly at the larger end, with ashy grey and dull violet.

In tinge of plumage the Lark varies not a little, some being greyer and others more rufous in tinge, and examples from Nubia are very pale. In India it is represented by *A. phœnicura* (Frankl.), which is much larger and as dark or darker than extreme varieties of *A. deserti*, but has the terminal portion of the tail blackish, as in *A. cinctura*. Mr. Hartert has described the Cape Verde bird under the name *A. cinctura arenicolor*, and that from Eastern Persia as *A. cinctura zarudnyi*, as subspecies.

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STURNUS, Linn., 1766.

567. Starling.

STURNUS VULGARIS.

Sturnus vulgaris, Linn. Syst. Nat. i. p. 290 (1766); Naum. ii. p. 187, Taf. 62 ; Hewitson, i. p. 216, pl. lv. fig. 1 ; Gould, B. of E. iii. p. 210 ; id. B. of Gt. Brit. iii. pls. 53, 54 ; Newton, ii. p. 228 ; Dresser, iv. p. 405, pls. 246, 247 ; Sharpe, Cat. B. Br. Mus. xiii. p. 27 ; Saunders, p. 227 ; Lilford, ii. p. 63, pls. 28, 29 ; *S. færoensis*, Feilden, B. of Faroe Isl. p. 47 (1872) ; *S. nitens*, Brehm, Isis, 1828, p. 1282 ; *S. indicus*, Hodgs. in Gray's Zool. Misc. p. 84 (1844) ; *S. minor*, Hume, Stray F. 1873, p. 207 ; *S. humei*, Brooks, Ibis, 1876, p. 500 ; *S. menzbieri*, Sharpe, Ibis, 1888, p. 438, pl. 1.

Étourneau vulgaire, French ; *Estornino*, Span. ; *Storno*, Ital. ; *Gemeiner Staar*, German ; *Spreeuw*, Dutch ; *Stær*, Dan. and Norw. ; *Stare*, Swed. ; *Musta-Kottarainen*, Finn. ; *Skvoretz*, Russ. ; *Sarsour*, Arab. ; *Telia-maina*, Hindu. ; *Tilgiri*, Kashm.

♂ *ad.* (England). Glossy black, with purple, green and steel-blue reflections, and slightly spotted with buffy white or pale brownish buff ; the head and neck glossed, with purple or greenish purple, the wing-coverts with steel-green or steel-blue, the under parts with steel-purple or steel-green ; beak yellowish ; legs light reddish brown ; iris hazel. Culmen 1·1, wing 5·0, tail 2·75, tarsus 1·2 inch. In winter it is duller in colour, and profusely spotted with buffy white. The female is duller than the male, and has the beak blackish brown. The young bird is sooty brown, the under parts marked with white, and the quills margined with dull rufous. Specimens from the Faroes frequently have a larger and broader bill, and those from India are as a rule smaller, and have fewer spots.

Hab. Europe, from the Faroes and Northern Norway to the Mediterranean ; Maderia, the Canary Isles, and Azores ; North Africa ; Asia from Siberia down to India ; has once occurred in Greenland.

Throughout its range the Starling is partly resident and partly migratory, breeding as a rule in the northern and central portions, and wintering in the south of Europe and in North Africa ; in Asia it breeds as far south as Sind. In its habits it is essentially gregarious even during the breeding season, and in winter collects in large flocks. It frequents arable and pasture land and feeds on worms and insects of various kinds, and occasionally in severe winter on grain and berries, and in the autumn it also feeds to some extent on fruit, especially mulberries. Its note is a somewhat harsh chatter, and a melodious whistle, the latter constituting its song in which it introduces bits of the songs of other birds, or their call-notes. Its nest is a somewhat bulky structure of grass or roots, lined with feathers and hair, and is placed in the hollow of a tree, in the hole of a wall, under the eaves of a roof, in a chimney, in a fissure of the rocks or in a hole in the ground, and the eggs 4 to 7 in number are deposited from April to June, according to locality, and are delicate pale blue with a greenish tinge, and in size average about 1·17 by 0·84. Occasionally, but very rarely, an open nest is built.

568. Purple-winged Starling.

STURNUS PURPURASCENS.

Sturnus purpurascens, Gould, P.Z.S. 1868, p. 219; id. B. of Asia, v. pl. 44; Dresser, iv. p. 419, pl. 249; Sharpe, Cat. B. Br. Mus. xiii. p. 37; *S. porphyronotus*; Sharpe, Ibis, 1888, p. 438.

♂ *ad.* (Erzeroum). Differs from *S. vulgaris,* in having the wing-coverts, scapulars, and rump purple or lake-purple, the throat bronze, and the abdomen and flanks purple or bronze-purple; soft parts as in *S. vulgaris.* Culmen 1·1, wing 5·2, tail 2·7, tarsus 1·2 inch.

Hab. S. E. Europe, Cyprus, Asia Minor; east to Afghanstan and Yarkand; the plains of India in winter.

In habits and nidification it does not differ from the Common Starling.

569. Subsp. Sturnus poltaratzskyi.

Sturnus poltaratzskyi, Finsch, P.Z.S. 1878, p. 712; Sharpe, Cat. B. Br. Mus. xiii. p. 36; Dresser, ix. p. 233; *S. nobilior,* Hume, Stray F. 1879, p. 175; *S. menzbieri*; Tacz. F. O. Sib. O. p. 543 (1893, nec. Sharpe).

ad. Differs from *S. purpurascens* merely in having the hind-neck greenish purple, the throat purplish bronze instead of greenish bronze, and the flanks dark purple instead of bronze-purple, and it is at best but a doubtful subspecies.

Hab. Persia; the Altai mountains, Afghanistan, and Siberia, visiting India in the winter.

In habits and nidification not differing from *S. vulgaris.*

570. Subsp. Sturnus caucasicus.

Sturnus caucasicus, Lorenz. Beitr. Orn. Cauc. p. 9, pl. v. fig. 1 (1887); Sharpe, Cat. B. Br. Mus. xiii. p. 37; Dresser, ix. p. 234.

Blestyastche-skvoretz, Russ.

ad. Differs from *S. poltaratzskyi* only in having the rump glossed with green, whereas in that species the green tinge does not extend below the lower part of the back, the rump being purple.

Hab. The Caucasus and Northern Persia.

In habits and nidification not differing from *S. vulgaris.*

571. SARDINIAN STARLING.

STURNUS UNICOLOR.

Sturnus unicolor, "de la Marm." Temm. Man. d'Orn. ed. 2, i. p. 133 (1820); Naum. xiii. p. 226, Taf. 351, fig. 1; Gould, B. of E. iii. pl. 211; Dresser, iv. p. 415, pl. 248; Sharpe, Cat. B. Br. Mus. xiii. p. 39.

Étourneau unicolore, French; *Estorninho*, Portug.; *Tordo*, Span.; *Storno nero, Sturneddu*, Ital.; *Zerzour*, Arab.; *Zarzor kehal*, Moorish.

♂ *ad.* (Spain). Black glossed with violet purple; wings and tail velvety black, the outer webs and tips of the feathers glossed with purple; feathers on the under parts elongated and lanceolate; bill yellow, bluish at the base below; legs brownish flesh; iris dark brown. Culmen 1·05, wing 5·0, tail 2·5, tarsus 1·2 inch. The female is rather duller than the male, and the young bird resembles that of *S. vulgaris*, but is darker. In winter the adult has the plumage slightly dusted with greyish, and is spotted with small whitish arrow-shaped dots, and the bill is blackish.

Hab. Portugal, Spain, rare in southern France; Italy and Sicily east to Palestine; North West Africa. In the countries north of the Mediterranean it is as a rule a summer resident, but in North West Africa it is to be met with throughout the year.

It frequents wooded districts more than the Common Starling which it resembles in its general habits and note, but its flight is swifter. Its nest is generally placed in a hollow tree or a hole in a cliff, and is a loose structure of dry grass, straws, and feathers, and the eggs resemble those of *S. vulgaris* but are if anything rather darker in colour.

PASTOR, Temm., 1815.

572. ROSE-COLOURED STARLING.

PASTOR ROSEUS.

Pastor roseus (Linn.), Syst. Nat. i. p. 294 (1766); (Naum.), ii. p. 206, Taf. 63; Hewitson, i. p. 217, pl. lv. fig. 2; Gould, B. of E. iii. pl. 212; id. B. of Gt. Brit. iii. pl. 56; Newton, ii. p. 243; Dresser, iv. p. 423, pl. 250; Sharpe, Cat. B. Br. Mus. xiii. p. 63; Oates, F. Brit. Ind. Birds, i. p. 518; Saunders, p. 229; Lilford, ii. p. 68, pl. 31.

Martin roselin, French; *Storno marino*, Ital.; *Rosenstaar*, German; *Rosovöi skvoretz*, Russ.; *Golabi maina*, *Tilyer*, Hindu.

♂ *ad.* (Italy). Head, neck, fore-breast, wings, tail, and thighs black, glossed with purple and green; head heavily crested; back, rump, breast, and abdomen rich pale rose colour; beak rose colour, brown at the base; legs dull brownish; iris reddish brown. Culmen 0·95, wing 5·0, tail 2·7, tarsus 1·3 inch. The female is duller in colour than the male. In the winter the rose colour is obscured to some extent with brownish, and the feathers on the head, throat, and neck are tipped with buff. The young bird is sandy grey above, whitish below; the head and fore-neck striped with brown; wings and tail dark brown, the feathers edged with rufous buff; beak yellowish brown; legs brown.

Hab. Southern Europe, rare or accidental in Great Britain, Scandinavia, Northern, Central, and Western Europe; commoner in Eastern Europe, Asia Minor, and Central Asia; winters in India as far east as Sikhim, and south as Ceylon and the Andamans; of rare or accidental occurrence in N. Africa.

Though in general habits this bird much resembles the Starling it is usually found in large flocks, which appear regularly in a most irregular manner as at Villafranca in 1875. Its food consists in the summer of insects of various kinds, grasshoppers, locusts, &c., otherwise of grain, seeds, and fruit, and it is said to be very partial to mulberries. It rarely breeds further west than Turkey, but is nearly always found nesting in vast communities. The nest is a very loose structure of grass-bents, &c., and may be placed in the ground or amongst stones or on buildings, often but little concealed. The eggs 3 to 5 in number are usually deposited in June, and are glossy white, faintly tinged with pale blue, sometimes pure white, and measure about 1·12 by 0·81.

SPODIOPSAR, Sharpe, 1889.

573. GREY STARLING.

SPODIOPSAR CINERACEUS.

Spodiopsar cineraceus (Temm.), Pl. col. ii. pl. 556 (1827); (id. and Schlegel), Faun. Jap. Aves, p. 85, pl. 45; (Sharpe), Cat. B. Br. Mus. xiii. p. 41; (Tacz.) F. O. Sib. O. p. 544; Oates, F. Brit. Ind. Birds, i. p. 524.

Muku-dori, Jap.

♂ *ad.* (Japan). Crown blackish, the forehead intermixed with white, the feathers elongated and lanceolate ; upper parts generally dark earth-brown, the upper tail-coverts white ; quills blackish, the primaries narrowly, the secondaries broadly margined with white ; tail blackish, broadly terminated on the inner webs with white ; ear-coverts white, finely streaked with black ; throat, breast, and flanks slaty blackish, the last paler ; rest of the under parts white ; bill orange, the tip horny, the base of the lower mandible and the angle of the mouth brownish green ; legs yellow ; iris brown surrounded by white. Culmen 1·2, wing 5·1, tail 2·7, tarsus 1·2 inch. The female has the upper parts duller, the chin white, the throat dull slaty brown, the breast pale brown marked and streaked with white, and the flanks pale brown. The young is russet brown, the inner webs of the tail-feathers are tipped with white, the quills are margined with paler brown, the ear-coverts whitish and the chin nearly pure white.

Hab. Eastern Siberia, Mongolia, N. China, Corea, and Japan, wintering in South China ; a rare visitant to Burma.

This species frequents the plains where trees are scattered about and appears to be somewhat shy in its habits, In the winter it wanders about the country in large flocks. Its nest is placed in the hollow of an old tree and its eggs, 3 to 5, sometimes as many as 7 in number, are usually deposited in May. These are pale blue or turquoise blue, occasionally slightly dotted with brown and measure about 1·15 by 0·78.

STURNIA, Less., 1837.

574. DAURIAN STARLING.

STURNIA STURNINA.

Sturnia sturnina (Pall.), Reis. Russ. R. iii. p. 695 (1776) ; Sharpe, Cat. B. Br. Mus. xiii. p. 71 ; (Oates) F. Brit. Ind. Birds, i. p. 530 ; *S. daurica* (Pall.), Act. Holm. 1778, p. 197, Taf. vii. ; (David and Oust.) Ois. Chine, p. 362 ; (Tacz.) F. O. Sib. O. p. 457.

♂ *ad.* (China). Crown, neck, and breast ashy grey, becoming nearly white on the throat and breast ; a nuchal patch, back, wings, and tail glossy purplish black, quills white on most of the inner web, the secondaries ashy grey on the basal half of the outer web ; wing-coverts and scapulars broadly tipped with white ; rump and upper tail-coverts brownish isabelline ; flanks same as the breast ; the rest of the under parts white, the under tail-coverts washed with warm buff , bill blackish brown, whitish at the base below ; legs dull earthy green ; iris dark brown. Culmen 0·8, wing 4·2, tail 2·1, tarsus 1·0 inch. The female is browner and duller, the upper parts being dark greyish brown and the slate-grey on the head is duller.

Hab. Eastern Siberia, Northern China and Mongolia, wintering in Burma, the Nicobars, and the Malay Peninsula to Java.

Like its congener *S. cineraceus,* with which it often consorts, it inhabits the plains where there are old trees, and it is said to be rather tame and trustful than shy. It places its nest in the hollow of a tree, and the eggs are usually deposited early in June. The male of this species is said to have a sweet though somewhat short song. Like its congeners its food consists exclusively of insects. It breeds in Dauria, but I have not been able to examine authentic eggs.

Temenuchus pagodarum (Gm.), *Acridotheres tristis* (Linn.), and *Acridotheres ginginianus* (Lath.), three well known Indian birds, have strayed into Afghanistan, but as they do not belong to Palæarctic genera I have deemed it best to exclude them.

575. RED-CHEEKED STARLING.

STURNIA VIOLACEA.

Sturnia violacea (Bodd.), Tabl. Pl. Enl. p. 11 (1783); Sharpe, Cat. B. Br. Mus. xiii. p. 70; *S. ruficollis* (Wagler), Syst. Av. *Pastor*, sp. 19 (1827); *S. pyrrhogenys* (Temm. and Schlegel), Faun. Jap. Aves, p. 86 (1850); *S. dominicana*, Salvad. Ucc. Born. p. 269 (1874).

Shima-muku-dori, Jap.

♂ *ad.* Differs from *S. sturnina* in having the head and neck dull creamy grey; the nuchal patch wanting; the chin and upper throat dull rufous isabelline, the sides of the neck more or less marked with chestnut-red, the breast and flanks warm slate-grey and the scapulars glossy black unmarked with white; bill and feet dark bluish. Culmen 0·8, wing 4·2, tail 2·2, tarsus 0·95 inch. The female resembles that of *S. sturnina* but has the crown paler, and there is no trace of the light colour on the scapulars.

Hab. Japan, wintering in the Philippines, Borneo, Celebes, and the Moluccas.

With regard to the habits of this species, I find nothing on record nor do I find any description of its nest or eggs.

PYRRHOCORAX Vieill., 1816.

576. CHOUGH.

PYRRHOCORAX GRACULUS.

Pyrrhocorax graculus (Linn.), Syst. Nat. i. p. 158 (1766) ; (Naum.) ii. p. 114, Taf. 57, fig. 2 ; (Hewitson), i. p. 218, pl. lvi ; (Gould), B. of E. iii. pl. 219 ; id. B. of Gt. Brit. iii. pl. 62 ; Newton, ii. p. 252 ; Dresser, iv. p. 437, pl. 251, fig. 1 ; (Sharpe), Cat. B. Br. Mus. iii. p. 146 ; (Tacz.), F. O. Sib. O. p. 538 ; Saunders, p. 231 ; Lilford, ii. p. 56, pl. 24 ; *P. eremita* (Linn.), Syst. Nat. i. p. 159 (1766) ; (Oates), F. Brit. Ind. Birds, i. p. 43.

Crave, French ; *Grajo, Jucala*, Span. ; *Steinkrähe*, German ; *Kluschitza, Bortevschik*, Russ.

♂ *ad.* (England). Jet black, the upper parts glossed with steel-blue and steel-violet ; beak and legs vermilion-red ; claws black ; iris brown. Culmen 2·1, wing 10·9, tail 5·8, tarsus 2·1 inch. Sexes alike. The young are duller in colour and have the beak and legs brownish orange.

Hab. The Chough inhabits Great Britain, but neither Scandinavia nor northern Europe, though found in southern France, Spain, Portugal, Switzerland, Italy, Sicily, Greece, and the Urals ; the Canaries, North Africa, as far south as Abyssinia, Asia Minor and Asia as far east as China, north to south-east Siberia and south to the Himalayas.

Throughout its range it is resident, inhabiting higher altitudes during the summer, descending lower for the winter. Its flight is erratic and resembles that of the Jackdaw, and its note is not unlike that of that species but is clearer and shriller. It feeds on insects of various kinds, and to some extent on grain. Its nest is placed in a fissure in the rocks, is tolerably large and is constructed of sticks, and well lined with roots, wool, and hair, and the eggs, 4 to 5 in number, which are usually deposited in April or May, are white or creamy white, sometimes with a greenish tinge, with faint purplish underlying shell-markings and have brown surface-spots and blotches, and in size average about 1·58 by 1·10.

Birds from the Himalayas are as a rule somewhat larger than those from Europe, and Gould separated them, calling the Himalayan bird *Fregilus himalayanus* but no one now reckons them as separable. In the British Islands the haunts of the Chough are confined to certain parts of the sea-coast and, except as a straggler, it is never seen inland.

577. ALPINE CHOUGH.

PYRRHOCORAX ALPINUS.

Pyrrhocorax alpinus, Vieill. N. Dict. vi. p. 568 (1816); Gould, B. of E. iii. pl. 218; Dresser, iv. p. 445, pl. 251, fig. 2; Sharpe, Cat. B. Br. Mus. iii. p. 148; Oates, F. Brit. Ind. Birds, i. p. 44; *Corvus pyrrhorcorax*, Linn. Syst. Nat. i. p. 158 (1766); Naum. ii. p. 107, Taf. 57, fig. 1.

Choucas des Alpes, French; *Alpenkrähe, Alpendohle*, German; *Grajo*, Span.; *Gracchio*. Ital.

♂ *ad.* (Switzerland). Glossy black with purple and bottle-green reflections; beak yellow with an orange tinge; legs and feet vermilion-red, soles blackish; claws blackish horn; iris brown. Culmen 1·2, wing 10·3, tail 6·0, tarsus 1·7 inch. Sexes alike. The young are brownish black, beak yellowish at the base, otherwise blackish; legs blackish marked with red in the articulations.

Hab. The mountains of Southern Europe from Spain to the southern Ural; rare in Portugal; Asia Minor; Palestine; the Himalayas from Kashmir to Bhutan; is said to have occurred in England.

In habits it resembles the common Chough, but frequents higher altitudes than that species and in the summer is found up to 15,000 feet and even higher, but in the winter it descends into the valleys but never frequents the sea-coast. Its flight is swift and it frequently hovers or glides in circles with outstretched wings. It feeds on insects of various kinds, seeds, berries, and grain. Its nest, which is placed in the fissure of a rock, or amongst old ruins, is constructed of twigs, grasses, and roots, lined with leaves, hair, and rootlets, and is large and bulky. The eggs, 4 to 5 in number are deposited in April or May, and resemble those of *P. graculus* but are smaller, averaging about 1·48 by 1·05.

PODOCES, Fischer, 1823.

578. PANDER'S GROUND-CHOUGH.

PODOCES PANDERI.

Podoces panderi, Fischer, Mém. Sc. Imp. Nat. Mosc. vi. p. 251, pl. xxi. (1823); Gould, B. of Asia, v. pl. 62; Dresser, ix. p. 239, pl. 685; Sharpe, Cat. B. Br. Mus. iii. p. 150; Cab. J.f.O. 1873, pl. iii. figs. 37, 38 (eggs); Newton, P.Z.S. 1897, p. 893, pl. li. fig. 10 (egg).

Tchour-Tchour, Turki.

ad. (Transcaspia). Upper parts blue-grey, the rump creamy vinous; chin, throat, and under tail-coverts white; rest of under parts vinous isabelline; wings black and white; tail, upper tail-coverts, a spot before and behind the eye, and a large patch on the lower neck, black; bill plumbeous, becoming blackish towards the tip; legs pale blue-grey; iris dark brown. Culmen 1·1, wing 4·6, tail 3·85, tarsus 1·7 inch. Sexes alike.

Hab. Transcaspia and Turkestan.

A resident species, found chiefly where the saxaul bush flourishes, and in sandy, barren districts. It is essentially a ground bird and but seldom perches on a bush, but runs with extreme swiftness and is not often seen on the wing. Its flight is not unlike that of a Jay, and is usually but a few feet above the ground, and is but short. Its note is peculiar, consisting of a quick repetition of peculiarly modulated syllables, *dschi-dschi-dschi*. Its food consists of various kinds of insects and their larvæ, as well as seeds, especially those of the saxaul.

Its nest, which is placed in a hole in the ground and but seldom low down on a bush, is constructed of twigs and desert plants, lined with fine grasses, strips of bark and hair, rarely a few feathers. The eggs, usually 3 or 4 in number, are deposited in February or March, and are pale greenish grey, spotted and blotched with brownish grey and greyish olive, somewhat resembling those of *Perisoreus infaustus*. In size they measure about 1·07 by 0·77.

579. Persian Ground-Chough.

PODOCES PLESKII.

Podoces pleskei, Zarudny, Ejeg. Zoolog. Mus. Imp. Akad. Nayk. i. p. xii. (1896); id. Mém. Acad. Imp. Sc. St. Petersb. vol. x. No. 1. p. 157; Harms. Orn. Monatsbericht. v. p. 181.

♂ *ad.* (E. Persia). Differs from *P. panderi* in having the upper parts warm rufous buff, not blue-grey, and the under parts paler rufous buff, the chin, upper throat, and middle of abdomen white; a black patch on the lower neck and soft parts as in *P. panderi*. Culmen 1·52, wing 4·7, tail 3·5, tarsus 1·77 inch. The female is paler and lacks the black patch on the throat, and the black behind the eye, the lores only being black.

Hab. North Eastern Persia (Birdjand).

In general habits it resembles *P. panderi* but differs in being more silent, and is swifter on foot. It nests on or close to the ground, but in one instance a nest was found in a tree fully ten feet above the ground; its nest resembles that of *P. panderi*, but its eggs, 4 to 6 in number, differ in having the ground colour clay-yellow, and not greenish grey. In size they average about 1·05 by 0·75.

580. HENDERSON'S GROUND-CHOUGH.

PODOCES HENDERSONI.

Podoces hendersoni, Hume, Ibis, 1871, p. 408 ; id. Lahore to Yark. p. 244, pl. 22 ; Gould, B. of Asia, v. pl. 61 ; Sharpe, Cat. B. Br. Mus. iii. p. 151 ; Bianchi and Berezovski, Ptitz. Gansu, &c. p. 123.

Kil-yurgha, *Kum-saghizghani*, *Kum-tuché*, Turki; *Holo-goro*, Mongol.

♂ *ad.* (Yarkand). Upper parts warm rufous isabelline, paler on the upper tail-coverts ; under parts pale isabelline, nearly white on the chin, throat, and lower abdomen ; crown and nape, wings and tail glossy purplish black ; primaries white except at the base and on the terminal portion which are purplish black ; bill and legs black ; iris brown. Culmen 1·75, wing 5·75, tail 4·3, tarsus 1·79 inch. Sexes alike.

Hab. Yarkand, Mongolia, the Gobi Desert, and Northern Tibet.

It inhabits desert plains and resembles *P. panderi* in its general habits, and likewise feeds on insects and seeds of various kinds. So far as I can ascertain its nest and eggs are as yet unknown, but it is said to breed in May and June.

581. WHITE-TAILED GROUND-CHOUGH.

PODOCES BIDDULPHI.

Podoces biddulphi, Hume, Str. Feath. 1874, p. 503 ; Sharpe, Cat. B. Br. Mus. iii. p. 151 ; Gould, B. of Asia, v. pl. 60 ; Sharpe, Second Yark. Miss. p. 22, pl. iv.

♂ *ad.* (Turkestan). Differs from *P. hendersoni* in having the sides of the throat glossy black, the middle of the throat intermixed white and black, the secondaries tipped with white and the tail white, the shafts of the feathers, and a line down the middle of the middle ones deep black ; bill and legs black ; iris brown. Culmen 1·85, wing 6·1, tail 4·3, tarsus 1·81 inch. Sexes alike.

Hab. Eastern Turkestan.

In habits this species resembles *P. panderi*, and is wild and wary. Its flight like that of its congeners is heavy, flapping, undulating, something like that of a Woodpecker. Its nest and eggs are as yet unknown.

582. Brown Ground-Chough.

PODOCES HUMILIS.

Podoces humilis, Hume, Ibis, 1871, p. 408; id. Lah. to Yark. p. 247, pl. 23; Gould, B. of Asia, v. pl. 63; Sharpe, Cat. B. Br. Mus. iii. p. 152.

Zungak, Turki.

♂ *ad.* (Yarkand). Crown, nape, and upper surface of the body, and wings pale brown; lores blackish; hind neck, sides of head below the eye, throat, and under parts white slightly tinged with isabelline on the sides of the neck and flanks; middle tail-feathers blackish brown with warm brown margins, rest of the tail-feathers pure white; bill and legs black; iris brown. Culmen 0·9, wing 3·8, tail 2·9, tarsus 1·2 inch. Sexes alike.

Hab. Yarkand, Kan-su, and Tibet.

Frequents grassy downs at an altitude of about 1,100 feet, and does not appear to collect in flocks. Although chiefly a ground bird it is often seen perched on twigs or bushes. It feeds on worms and insects, never on grain or seeds. It breeds in June or July, making its nest in holes on the hill sides, but its eggs are as yet undescribed.

NUCIFRAGA, Briss., 1760.

583. Nutcracker.

NUCIFRAGA CARYOCATACTES.

Nucifraga caryocatactes (Linn.), Syst. Nat. i. p. 157 (1766); (Naum.) ii. p. 130, Taf. 58, fig. 2; Gould, B. of E. iii. pl. 213; id. B. of Gt. Brit. iii. pls. 65, 66; Newton, ii. p. 330; Dresser, iv. p. 451, pl. 252; Sharpe, Cat. B. Br. Mus. iii. p. 53; Tacz. F. O. Sib. O. p. 540; Saunders, p. 233; (Lilford), ii. p. 62, pl. 27.

Casse-noix, French; *Nocciolaja*, Ital.; *Notenkraker*, Dutch; *Nussheher*, *Nussknacker*, German; *Nöddekrige*, Dan.; *Nöddekrage*, Norweg.; *Nötkråka*, Swed.; *Pähkinähakinen*, Finn.; *Kedrovka*, Russ.; *Hoshi-garasu*, Jap.

♂ *ad.* (Sweden). Blackish chocolate with profuse white tear-shaped spots, crown and nape unspotted; under tail-coverts pure white; wings and tail glossy black, the former slightly spotted with white at the tips of the feathers, the latter tipped with white; beak and legs black; iris brown. Culmen 2·2, wing 7·75, tail 5·5, tarsus 1·85 inch. Sexes alike. The young bird is much duller in colour and the feathers are loose in texture.

Hab. Northern Europe, the hilly portions of Central and Southern Europe; in Scandinavia at least up to 63° N. Lat. but rare; Northern Asia east to Japan; of rare occurrence in Great Britain.

As a rule the Nutcracker is a resident, but in some seasons considerable numbers wander throughout the country, probably in search of food. In general habits it somewhat resembles the Jay but is much less lively, and frequents conifer woods in mountain districts. Its food consists of seeds, especially those of conifers, hazel- and beechnuts, acorns, berries, and to some extent of insects. Its flight is heavy and seldom protracted, and its call-note is a harsh protracted *kräk, kräk, kräk,* and when alarmed, *dscherr, dscherr.* Its nest is placed on a tree, usually a conifer, is constructed of twigs, interwoven with lichens, and lined with lichen and dry grass. The eggs, which are usually deposited in March or April, 3 to 5 in number, are pale whitish sea-green finely marked with pale liver-brown, and measure about 1·31 by 1. Specimens from Siberia have the bill thinner, and have been separated subspecifically under the name *Nucifraga macrorhynchus,* C. L. Brehm, whereas those from Japan have the bill intermediate in size (*N. japonicus,* Hartert), and those from Kamchatka are whiter (*N. kamchatkensis,* Barrett Hamilton). In Kashmir the present species is replaced by *N. multimaculata,* and in the Himalayas east to Moupin by *N. hemispila.*

PERISOREUS, Bp., 1838.

584. SIBERIAN JAY.

PERISOREUS INFAUSTUS.

Perisoreus infaustus (Linn.), Syst. Nat. i. p. 138 (1766); (Naum.) xiii. p. 215, Taf. 350; (Gould), B. of E. iii. pl. 215; Dresser, iv. p. 471, pl. 253; Sharpe, Cat. B. Br. Mus. iii. p. 103; Tacz. F. O. Sib. O. p. 507.

Unglücks-Heher, German; *Ulykkesfugl,* Dan.; *Lavskrige,* Norw.; *Lafskrika,* Swed.; *Gnovsak,* Lapp.; *Kuukainen, Kusankanärhi,* Finn.; *Rousha,* Russ.

♂ *ad.* (Lapland). Crown and nape sooty brown; back and under parts lead-grey, rump and upper tail-coverts fox-red, as are all the tail-feathers except the two middle ones which are lead-grey; the rest tipped with grey; wings sooty brown, the outer webs of the quills fox-red, the wing-coverts chiefly red; abdomen, flanks, and under tail-coverts rufous; beak and legs black; iris brown. Culmen 1·05, wing 5·6, tail 5·7, tarsus 1·4 inch. Sexes alike. The young bird is duller and paler in colour.

Hab. Scandinavia north into Lapland, of rare occurrence in Denmark and N. Germany; in Asia across the entire continent south to Saghalien and the Amoor.

Frequents the conifer woods, and is by no means shy, but affects the camps of hunters, being most familiar, and the huts of the Lapps, where it can feed on the meat hung up to dry. It feeds on larvæ, small mammals, berries, etc., and is said to kill and devour young birds. Its cry is very varied being sometimes a cheerful *kook kook*, and at others a melancholy, and somewhat harsh *tjäh, tjäh.* Early in the spring whilst the snow is still on the ground it commences nidification, its nest, which is placed in a tree, close to the stem, being constructed of twigs and grey lichen, intermixed with a few feathers and a little grass, and lined with lichen and a little hair. The eggs, 3 to 5 in number, are dull white or pale greenish white with purplish grey shell-markings and well defined hair-brown surface-spots and blotches, and in size average about 1·24 by 0·85.

The Siberian bird (*P. infaustus sibiricus,* Tacz.) is as a rule rather clearer and greyer in colour than the European bird, but cannot be separated from it even subspecifically.

GARRULUS, Briss., 1760.

585. THE JAY.

GARRULUS GLANDARIUS.

Garrulus glandarius (Linn.), Syst. Nat. i. p. 156 (1766); (Naum.) ii. p. 122, Taf. 58, fig. 1; Hewitson, i. p. 237, pl. lx. fig. 1; Gould, B. of E. iii. p. 214; id. B. of Gt. Brit. iii. pl. 64; Newton, ii. p. 323; Dresser, iv. p. 481, pl. 254; Sharpe Cat. B. Br. Mus. iii. p. 93; Saunders, p. 235; Lilford, ii. p. 60. pl. 26.

Geai ordinaire, French; *Gaio,* Portug.; *Arrendajo, Cabezon,* Span.: *Ghiandaja,* Ital.; *Nussheher, Eichelheher,* German; *Vlaamsche Gaai,* Dutch; *Skovskade* Dan.; *Næddeskrige,* Norweg.; *Nötskrika,* Swed.; *Hohkanärhi, Paskanärhi,* Finn.; *Soika,* Russ.

♂ *ad.* (Denmark). Crown crested, whitish striped with black; upper parts light brownish vinous washed with grey on the back; under parts buffy white, flanks reddish; rump, upper tail-coverts, vent, and under tail-coverts white; tail and quills black, secondaries with a white patch on the basal half of the outer web, the innermost chestnut with a black patch at the tip; secondaries barred with black, white, and blue; a long black patch below the eye; bill blackish brown; legs light reddish brown; iris bluish white. Culmen 1·5, wing 7·2, tail 6·5, tarsus 1·5 inch. The female and young resemble the male but are duller in colour.

Hab. The whole of Europe up to about 64° N. Lat., east to the Ural, and south to the Mediterranean.

In its habits it is wary and shy, and frequents wooded country, gardens, hedgerows, etc. In the summer it feeds on fruit, mice, birds'-eggs, young birds, and even on frogs, and in the winter on nuts, acorns, berries, larvæ, worms, and snails. Its note is a harsh, discordant cry resembling the syllables *räätsch rätsch* and *rrää*, and it is an excellent mimic.

Its nest, which is usually placed on a high bush or a tree generally close to the stem, is a somewhat bulky structure of sticks and twigs, neatly finished inside, and lined with rootlets and dried grass. The eggs, 5 to 6, sometimes 7 in number, are usually deposited in April or May, and are greyish white or greenish grey thickly speckled with pale brown and in some the markings are collected round the larger end. In size they measure about 1·21 by 0·92.

586. PERSIAN JAY.

GARRULUS HYRCANUS.

Garrulus hyrcanus, Blanf. Ibis, 1873, p. 225 ; id. E. Persia, p. 265, pl. xviii ; Dresser, ix. p. 245, pl. 686 ; Sharpe, Cat. B. Br. Mus. iii. p. 94.

Soika, Russ. ; *Kagno-Agraw*, Armen. ; *Balut-Khor*, Persian.

♂ *ad.* (Persia). General colour above rufescent vinaceous, the feathers on the crown black, margined with rufescent vinaceous ; nasal bristles isabelline tipped with black ; wings and tail as in *G. glandarius* ; cheeks more rufous than in that species ; throat pale rufescent vinaceous ; rest of under parts deep vinous red, darker on the flanks ; the lower abdomen, vent, under tail-coverts, and thighs white ; beak, legs, and iris as in *G. glandarius.* Culmen 1·25, wing 6·5, tail 5·2, tarsus 1·6 inch. Female and young duller in colour.

Hab. Northern Persia, west to the Talysch lowlands in the Caucasus.

In habits and nidification this species does not differ from *G. glandarius*, and its eggs resemble those of that species but are as a rule slightly darker.

587. AFRICAN JAY.

GARRULUS MINOR.

Garrulus minor, Verreaux, Rev. and Mag. de Zool. 1857, p. 439, pl. xiv ; Dresser, ix. p. 247 ; Sharpe, Cat. B. Br. Mus. iii. p. 96.

Djirire, Arab.; *Derraz*, Moorish.

♂ *ad.* (Algeria). Differs from *G. glandarius* n being smaller, in having the head and neck vinous red, the back grey, and the feathers on the crown considerably blacker; beak blackish brown; legs light reddish brown; iris pale blue. Culmen 1·1, wing 6·8, tail 6·0, tarsus 1·65 inch.

Hab. Algeria.

I find nothing on record respecting the habits and nidification of this species, but it probably does not appreciably differ therein from *G. glandarius.*

588. BRANDT'S JAY.

GARRULUS BRANDTI.

Garrulus brandti, Eversm. Add. Pall. Zoogr. iii. p. 8 (1843); Dresser, iv. p. 487, pl. 255; Sharpe, Cat. B. Br. Mus. iii. p. 96; Tacz. F. O. Sib. O. p. 509.

Borovaya-soika, *Rousha*, Russ.; *Urman-soeskan*, Bashkir; *Miyama-kakesu*, Japanese.

♂ *ad.* (Ural). Differs from *G. glandarius* in having the head, face, and nape rich rufous, the back much greyer, the moustachial stripe much larger, the black on the face extending almost round the eye, and the feathers on the crown have a central black line; beak blackish brown; legs dull greyish brown; iris bluish red or violet-brown. Culmen 1·1, wing 6·9, tail 6·2, tarsus 1·55 inch.

Hab. The Ural range and the Caucasus, east through the Altai, Siberia, and Manchuria to Corea, Japan, and northern China.

In general habits this species does not differ from *G. glandarius.* Its nest is described as being placed in a pine-tree and constructed of dry birch-twigs and lined with fine grass-roots. Its eggs closely resemble those of *G. glandarius*, but are glossier in texture of shell, and the markings are as a rule finer.

589. SYRIAN JAY.

GARRULUS ATRICAPILLUS.

Garrulus atricapillus, Isid. Geoffr. St. Hilaire, Étud. Zool. fasc. i. (1832); Dresser, iv. p. 491, pl. 256, fig. 2; Sharpe, Cat. B. Br. Mus. iii. p. 97; *G. stridens*, (Hempr. and Ehr.) Symb. Phys. Av. fol. L. (1833); *G. melanocephalus*, Gene. Mem. Accad. Torin. xxxviii. p. 298 (1834); *G. iliceti*, Licht. Nomencl. Av. p. 9 (1854).

ad. (Palestine). Differs from *G. glandarius* in having the crest deep black, the forehead, sides of head and face, and throat pure white, the back and wing-coverts pale fawn-brown, and in having rather more white on the secondaries. Culmen 0·85, wing 7·1, tail 6·0, tarsus 1·10 inch.

Hab. Palestine, Syria, the Caucasus, and Persia.

In its habits this species is said not to differ from *G. glandarius,* and its nest and eggs resemble those of that species.

590. TURKISH BLACK-HEADED JAY.

GARRULUS KRYNICKII.

Garrulus krynickii, Kalenicz. Bull. Soc. Mosc. tom. xii. p. 319, pl. 9 (1839); Dresser, iv. p. 495, pls. 256, fig. 1, 257; Sharpe, Cat. B. Br. Mus. iii. p. 99.

ad. (Turkey). Differs from *G. atricapillus* in having the forehead greyish white, each feather with a black spot extending over most of the terminal portion of the feather, the ear-coverts, sides of the face and neck vinous, and the nape and back greyish washed with rufous towards the rump. Culmen 1·35, wing 7·4, tail 6·4, tarsus 1·8 inch.

Hab. Southern Russia, Turkey, Asia Minor, and the Caucasus.

In general habits and nidification not differing from *G. glandarius,* but its nest is as a rule smaller, and its eggs, from 5 to 7 in number, are rather darker.

591. ALGERIAN BLACK-HEADED JAY.

GARRULUS CERVICALIS.

Garrulus cervicalis, Bp. Comp. Rend. xxxvii. p. 828 (1853); Dresser, iv. p. 499, pl. 258; Sharpe, Cat. B. Br. Mus. iii. p. 98.

Geai à calotte noir, French; *Mièkierk,* Arab.

ad. (Morocco). Differs from *G. atricapillus* in having the forehead spotted with black, the nape and forepart of the back rich rusty red, and the back pale greyish faintly washed with rufous buff. Culmen 1·3, wing 7·0, tail 6·0, tarsus 1·6 inch.

Hab. North-west Africa.

Affects wooded districts, and in general habits resembles *G. glandarius,* but is said to be less noisy. Its nest is usually placed in a high tree, is constructed of twigs interwoven with roots, and lined with fine rootlets, and the eggs 4 to 5 in number resemble those of the *G. glandarius.*

592. JAPANESE JAY.

GARRULUS JAPONICUS.

Garrulus japonicus, Temm. and Schlegel, Faun. Jap. Aves. p. 83, pl. 43 (1850); Sharpe, Cat. B. Br. Mus. iii. p. 95.

Kakesu, Japanese.

ad. (Japan). Differs from *G. glandarius* in being considerably smaller, in having the upper parts darker, the black on the face extending all round the eye, and the crest is white, each feather having a broad black central line. Culmen 1·25, wing 6·3, tail 5·9, tarsus 1·5 inch.

Hab. Japan, south of the straits of Tsugaru.

In its general habits it does not differ from *G. glandarius* and its nest and eggs resemble those of that species. It usually builds on a pine or cryptomeria tree about 15 feet from the ground, and deposits its eggs in May and June. *Garrulus bispecularis* Vigors, which inhabits the Himalayas, probably occurs in Tibet, and its near ally *G. sinensis* Swinhoe, which inhabits China, is said to have occurred once in Japan.

593. LIDTH'S JAY.

GARRULUS LIDTHI.

Garrulus lidthi, Bp. Consp. i. p. 376 (1850); id. P.Z.S. 1850, p. 80, Aves, pl. xvii; Sharpe, Cat. B. Br. Mus. iii. p. 102.

Rufescent vinaceous; entire head, neck, wings, and tail dark azure; forehead and lores blackish; feathers of the throat lanceolate, the barbules lax, the shafts white; wing-coverts barred with black; quills and tail blackish towards the tip and tipped with white; the blue of the head and neck gradually merging into the rufescent vinous of the back and abdomen; bill white, high, much compressed; tail longish, even. Culmen 1·50, wing 7·0, tail 5·50, tarsus 1·8 inch. (Bp).

Hab. Japan.

Nothing is known respecting this Jay beyond that two specimens, said to have come from the interior of Japan, were sent to Europe, but no one has met with it there since.

CYANOPICA, Bp., 1850.

594. Azure-Winged Magpie.

CYANOPICA COOKI.

Cyanopica cooki, P. Z. S. 1850, p. 86 ; Dresser, iv. p. 503, pl. 259 ; (Sharpe), Cat. B. Br. Mus. iii. p. 69 ; (Gould), B. of E. pl. 217.

Rabilongo, Portug. ; *Rabilargo, Mohino*, Span.

♂ *ad.* (Spain). Crown, nape, and sides of the head velvety black ; back, scapulars, and rump brownish dove-colour, greyer on the upper tail-coverts, wings rich blue, most of the feathers black on the inner web, some white on the terminal half of the outer web ; tail much graduated, rich blue, the outer feathers very narrowly tipped with white ; under parts white, the flanks and under tail-coverts washed with ashy brown ; beak and legs black ; iris blackish brown. Culmen 1·0, wing 5·3, tail 8·2, tarsus 1·4 inch. Sexes alike.

Hab. Confined to Spain and Portugal.

In general habits this species resembles both the Magpie and Jay, more especially the former. It is not shy and affects gardens and groves more especially where the evergreen oak is plentiful. Its flight resembles that of the Magpie but is softer. Its food consists of insects of various kinds, but it is said also to eat fruit occasionally. Its nest, which is placed on the branch of a tree at no great altitude, is constructed of dry twigs and sticks, interwoven with grass and moss, and lined with grass or wool ; the eggs from 5 to 7 in number are usually deposited in May and vary in ground colour from dull greenish white to dull stone-colour or dark buff and are marked with pale purplish brown shell-blotches and dark brown surface-spots. In some the markings are more numerous round the larger end, and in size they average about 1·08 by 0·81.

595. Eastern Blue Magpie.

CYANOPICA CYANA.

Cyanopica cyana (Pall.), Reise, iii. Anhang, p. 694, No. 7 (1776) ; (id.) Zoogr. Ross. As. i. p. 391, pl. xvi ; (David and Oust. Ois.) Chine, p. 374, pl. 84 ; (Sharpe), Cat. B. Br. Mus. iii. p. 68 ; (Tacz.) F. O Sib. O. p. 511.

Sinaja - soroka, Ronshé, Russ. ; *Idach, Kitak-schædzeghaei*, Mongol. ; *Chadarà,* Tungus. ; *Gschonmo,* Tangut. ; *Onangadori* Jap.

♂ *ad.* (Japan). Differs from *C. cooki*, in having the upper parts ashy grey, with occasionally a faint tinge of brown, and the tail is broadly tipped with white. The young bird is duller in colour, and has the feathers on the head narrowly tipped with white.

Hab. Eastern Siberia; South-eastern Mongolia; Northern China, Corea, and Japan on the main island, but not on Yezo.

In habits it differs but little from *C. cooki* but is said to be shyer, frequenting the forests, especially near rivers. Its food consists of insects of various kinds, berries, fruit, and seed. Its note is said to resemble the syllables *bjjj, djjin, djjin, djjin* and it is a somewhat noisy bird. Its nest and eggs closely resemble those of *C. cooki*, but the latter are generally darker.

The Chinese Blue Magpie *Urocissa sinensis* (Linn.) is said to occur north of Pekin, and even to stray to south-west Kan-su (Berez. and Bianchi Ptitz. Gan-su, p. 122), but I do not include it as it is not strictly speaking a Palæarctic bird.

PICA, Briss., 1760.

596. MAGPIE.

PICA RUSTICA.

Pica rustica (Scopoli), Ann. i. Hist. Nat. p. 38 (1769); Newton, ii. p. 312; Dresser, iv. p. 509, pl. 260, fig. 2; Oates, F. Brit. Ind. Birds, i. p. 24; Saunders, p. 237; *Corvus pica*, Linn. Syst. Nat. i. p. 157 (1766); Naum. ii. p. 101, Taf. 56, fig. 2; (Sharpe), Cat. B. Br. Mus. iii. p. 62; *P. hudsonica*, Bp. Comp. List, p. 27 (1838); *P. caudata*, Keys and Blas. Wirbelth. Eur. p. 45 (1840); Hewitson, i. p. 234, pl. lx. fig. 3; Gould, B. of E. iii. pl. 216; Lilford, ii. p. 58, pl. 25; *P. bottanensis*, Deless. Rev. Zool. ii. p. 100; *P. japonica* et *bactriana*, Bp. Consp. i. p. 383; *P. leucoptera*; Gould, B. of Asia, v. pl. 55; Sharpe, Cat. B. Br. Mus. iii. p. 66.

Pie ordinaire, French; *Pega*, Portug.; *Marica, Urraca*, Span.; *Gaza, Cecca*, Ital.; *Elster*, Germ.; *Skade*, Dan.; *Skjære*, Norw.; *Skata*, Swed.; *Harakka*, Finn.; *Soroka*, Russ.; *Acka*, Pers.; *Hizen-karasu*, Jap.

♂ *ad.* (England). Head, neck, back, breast, wings, and tail deep black, glossed with bottle-green and violet-green; rump dull white; primaries white on the basal inner web; scapulars and abdomen white; thighs, anal region, and under tail-coverts black; bill and legs black; iris brown. Culmen 1·4, wing 7·4, tail 10·2, tarsus 1·85 inch. Sexes alike.

Hab. The whole of Europe from the Varanger Fjord to the Mediterranean; Asia from Kamchatka to the Himalayas;

Tibet, Mongolia, China, and Japan; America from Alaska to Arizona, east to the Missouri river.

In habits the Magpie varies according to circumstances, for in England where it is persecuted, it is extremely shy and wary, but elsewhere, where not molested, it is tame and confiding. It feeds on small mammals, carrion, and any animal food, eggs, young birds, insects, worms, fish (on the coasts), and even on fruit. Its note is a harsh chatter, somewhat modulated during the breeding season. Its flight is laboured and weak and it seldom flies far before seeking shelter. Its nest which is a bulky domed structure of sticks and turf worked together in the foundation with clay or earth, and the cup lined with fine roots or grass, is placed on a tree or hedge, sometimes in a low bush. The eggs, 6 to 8 or even 9 in number, are laid early in the season, and are pale bluish white closely spotted with brown or greenish brown, sometimes yellowish brown spotted with olive, and in size average about 1·48 by 0·94.

Specimens from Turkestan and Tibet (*P. leucoptera*) have more white on the quills, and those from Kamchatka (*P. camtschatica.* Stejn) are even whiter, others from Sikhim and Bhutan (*P. bottanensis*) are said to have the rump entirely black and have accordingly been separated specifically from *P. rustica* by some authors, but these differences are not constant. In Western N. America *P. nuttalli*, Aud. occurs, which has the beak and bare orbital skin bright yellow.

597. MOORISH MAGPIE.

PICA MAURITANICA.

Pica mauritanica, Malh. Mém de la Soc. d'Hist. Nat. de Metz, p. 7 (1843); Levaill. jr. Expl. Scient. d'Algér. Atl. Ois. pl. 8; Dresser, iv. p. 519, pl. 260, fig. 1; Sharpe, Cat. B. Br. Mus. iii. p. 66; Koenig J.f.O. 1895, Taf. vi. figs. 4*a*, *b* (eggs).

L'Agaag, Arabic.

♂ *ad.* (Algeria). Differs from *P. rustica* in having a conspicuous bare, bright cobalt blue spot behind the eye, the rump black, not white; the black on the breast extends further down, and the head and back are more glossed with green. Culmen 1·45, wing 6·2, tail 10·7, tarsus 1·75 inch.

Hab. N.W. Africa (Algeria, Morocco, Tunisia, &c.)

In habits it does not differ from *P. rustica*, and its nest and eggs closely resemble those of that species. The eggs are usually deposited in May. This species is especially victimized by *Coccystes glandarius.*

CORVUS, Linn., 1766.

598. DAURIAN JACKDAW.

CORVUS DAUURICUS.

Corvus dauuricus, Pall. Reise, &c. iii. Anhang, p. 694 (1776) ; id. Zoogr R. As. i. p. 387, tab. xv. ; (Temm. and Schlegel), Faun. Jap. Aves p. 80, pl. 41 ; (David and Oust.), Ois. Chine, p. 370 ; (Sharpe), Cat. B. Br. Mus. iii. p. 28 ; (Tacz.), F. O. Sib. O. p. 521.

Peggoja-Galka, Russ. ; *Alaktu*, Burat. ; *Tontro*, Tungus. *Kokumaro-garasu*, Jap.

♂ *ad.* (E. Siberia). Nape, hind-neck, sides of the neck, lower throat and abdomen white ; rest of the plumage deep black, glossed with purple and green ; the ear-coverts streaked with greyish white ; bill and legs black ; iris brownish grey. Culmen 1·2, wing 9·2, tail 5·1, tarsus 1·7 inch. The female is rather duller in colour, and the young have the black portions of the plumage much duller, and have the white portions tinged with dull grey.

Hab. Siberia, from Irkutsk and the Altai east to the Pacific ; Northern China, Corea, Mongolia, Manchuria, and Japan.

In habits it does not differ from the European Jackdaw. It nests in the rocks, in hollow trees, and even in the forks of the branches, and its eggs resemble those of *C. monedula*.

599. JACKDAW.

CORVUS MONEDULA.

Corvus monedula, Linn. Syst. Nat. i. p. 156 (1766) ; Naum. ii. p. 93, Taf. 56, fig. 1 ; Hewitson, i. p. 232, pl. lx. fig. 2 ; Gould, B. of E. iii. p. 133 ; id. B. of Gt. Brit. iii. pl. 61 ; Newton, ii. p. 305 ; Dresser, iv. p. 523, pl. 261 ; (Sharpe), Cat. B. Br. Mus. iii. p. 26 ; Oates, F. Brit. Ind. Birds, i. p. 22 ; Saunders, p. 239 ; Lilford, ii. p. 54, pl. 23 ; *C. collaris*, Drummond, Ann. and Mag. Nat. Hist. xviii. p. 11 (1846) ; (Sharpe), Cat. B. Br. Mus. iii. p. 27.

Choucas gris, French ; *Cuneta*, Portug. ; *Graja*, Span. ; *Taccola*, Ital. ; *Dohle*, Germ. ; *Kerkkaauw*, Dutch ; *Kaa*, Dan. ; *Kaje*, Norw. ; *Kaja*, Swed. ; *Naaka*, Finn. ; *Galka*, Russ.

♂ *ad.* (Sweden). General colour deep black, the wings and tail glossed with purple ; back and rump slightly tinged with greyish ; under parts tinged with slate-grey ; nape, hind-neck, and sides of the neck white, with a greyish tinge ; bill and legs black ; iris nearly white. Culmen 1·3, wing 9·0, tail 5·2, tarsus 1·9 inch. The female has the neck greyer and darker, and the young are duller in colour, the under parts greyer, and the grey on the neck much darker and duller.

Hab. The whole of Europe up to 63° or 64° N. Lat. ; ranging into Western Siberia, Afghanistan, Kashmir, N.W. Punjab, and even to Tibet ; North Africa ; a straggler to the Canaries.

In habits the Jackdaw is lively, noisy, and cheerful, essentially gregarious, being almost always to be met with in companies or associating with Rooks. Where unmolested it is extremely tame, but where there is any sign of danger it is wary enough. Its flight is wavering and rapid, and it often performs evolutions in the air. Its note is a clear short *chock*, and when many are calling at the same time it is not unpleasing. Its food consists of larvæ and insects of various kinds, worms, shell-fish, crustaceans, and to some extent also of grain, and it is said also to steal the young and eggs of other birds. Its nest, which is placed in an old ruin, the hollow of a tree, a hole in a cliff, and even in a rabbit burrow, is a careless structure of sticks, straw, feathers, wool, &c., and the eggs 4 to 7 in number are usually laid in May, and vary from greenish white to pale bluish green in ground colour, more or less spotted and blotched with pale purplish, or purplish brown blotches, and light or dark brown surface-markings ; in size averaging 1·36 by 1·01. Specimens from Eastern Europe and Asia (*C. collaris*) have as a rule the nuchal collar less tinged with grey and sometimes almost pure white, but this is not constant.

600. SUBSP. CORVUS NEGLECTUS.

Corvus neglectus, Schlegel, Bijd. Dierk, Amsterdam, Afl. viii. p. 16 (1859) ; Swinhoe, Ibis, 1863, p. 259 ; (Sharpe), Cat. B. Br. Mus. iii. p. 28 ; (David and Oust.), Ois. Chine, p. 370 ; (Tacz.) F. O. Sib. O. p. 524.

ad. Differs from *C. monedula* in having only a very indistinct collar of dull silvery grey, and the under parts dingy blackish grey, becoming black on the thighs and under tail-coverts. Culmen 1·35, wing 9·1, tail 5·2, tarsus 1·9 inch.

Hab. Northern China, Mongolia, and Japan.

In habits this species does not differ from *C. monedula* of which it is the eastern representative.

601. Black Crow.

CORVUS CORONE.

Corvus corone, Linn. Syst. Nat. i. p. 155 (1766); Naum. ii. p. 54, Taf. 53, fig. 2; Hewitson, i. p. 222, pl. lviii. fig. 1; Gould, B. of E. iii. pl. 221; id. B. of Gt. Brit. iii. pl. 58; Newton, ii. p. 274; Dresser, iv. p. 531, pl. 262, fig. 2, 263, fig. 1; (Sharpe), Cat. B. Br. Mus. iii. p. 36; Tacz. F. O. Sib. O. p. 533; Oates, F. Brit. Ind. Birds, i. p. 16; Saunders, p. 243; Lilford, ii. p. 46, pl. 20.

Corneille noire, French; *Gralha*, Portug.; *Corneja negra*, Span.; *Cornecchia nera*, Ital.; *Schwarze Krähe*, Germ.; *Kraai*, Dutch; *Sort Krage*, Dan.; *Chernaya Vorona*, Russ.; *Hashiboso-garasu*, Jap.

♂ *ad.* (Scotland). Jet black, on the upper parts chiefly glossed with purple, the wings and tail with greenish purple; tail slightly rounded; bill and legs black; iris brown. Culmen 2·3, wing 12·8, tail 7·10, tarsus 2·30 inch. Sexes alike.

Hab. Europe, from Great Britain and Denmark to the Mediterranean, but chiefly in the west, becoming rarer east of the Elbe; of rare occurrence in Sweden; Asia, sparingly to the Yenesei, east of which it (*C. orientalis*, Eversm.) is the prevalent form; north to Kamchatka, south to Mongolia, North China, and Japan (*C. japonensis*, Bp.), where it is common, south-west to eastern Turkestan and Kashmir.

In habits it is cautious and wary, and except where there is a carcass or where food is plentiful it is usually seen in pairs or alone. Its flight is direct and performed by regular flaps of its fully extended wings, and its note is a tolerably loud, clear, croak. It is an omnivorous feeder, but flesh or fish forms its staple food; carrion, fish that has been cast up on the shore shell-fish, young birds, eggs, new born or weakly lambs all come equally welcome, and when driven by hunger it is said even to eat berries. Its nest, which is placed on a tree or rock, is bulky, constructed of sticks and twigs worked together with mould, and well lined with moss, hair, wool, and feathers; the eggs, 4 to 6 in number, are usually deposited in April or early in May, and are pale bluish green, sometimes tinged with olive, spotted and blotched with purplish grey shell-markings and lighter or darker brown surface-blotches; in size measuring about 1·72 by 1·09.

602. Grey Crow.

CORVUS CORNIX.

Corvus cornix, Linn. Syst. Nat. i. p. 156 (1766); Naum. ii. p. 65, Taf. 54; Hewitson, i. p. 224, pl. lviii. fig. 2; Gould, iii. pl. 22; id. B. of Gt. Brit. iii. pl. 59; Newton, ii. p. 275; Dresser, iv. p. 543, pl. 263

fig. 2; (Sharpe), Cat. B. Br. Mus. iii. p. 31; Tacz. F. O. Sib. O. p. 533; Oates, F. Brit. Ind. Birds, i. p. 19; Saunders, p. 245; Lilford, ii. p. 47, pl. 21; *C. capellanus*, Sclater, P.Z.S. 1876, p. 694, pl. lxvi; (Sharpe), op. cit. iii. p. 32; *C. sharpii*; Oates, tom. cit. p. 20 (1889).

Corneille mantelée, French; *Corronca, Cornacchia*, Ital.; *Nebelkrähe, Mantelkrähe*, Germ.; *Graa-Krage*, Dan.; *Kraake*, Norweg.; *Grå Kråka*, Swed.; *Vuoras*, Lapp.; *Vares*, Finn.; *Saraya-Vorona*, Russ.

♂ *ad.* (Denmark). Head, central throat, and upper breast, wings and tail deep black, glossed with blue and violet; hind-neck, sides of neck, back, and under parts ashy grey, the feathers with dark shafts; thighs blackish; bill and legs black; iris dark brown. Culmen 2·2, wing 12·6, tail 7·8, tarsus 2·4 inch. Sexes alike.

Hab. Europe, chiefly in the north and east; Ireland generally; the northern portion of Great Britain; a straggler to Iceland, but common in the Færoes; Scandinavia, north to Lapland; east of the Elbe it is the prevalent form; south-eastern Europe, Asia Minor, Palestine, and Egypt; Asia, east to the Yenesei, then very rare, south to Afghanistan and Turkestan (*C. sharpii*), the Persian Gulf and Mesopotamia (*C. capellanus*).

In habits, note, and nidification this species does not differ from *C. corone*, and in a series its eggs are also undistinguishable. In localities where the two species occur they interbreed not unfrequently and partly for that reason Prof. Newton unites the two species. On the other hand Dr. Sclater and Dr. Sharpe separate the Persian form (*C. capellanus*) as having the grey portions of the plumage nearly white, and Mr. Oates recognizes three species, viz. *C. cornix* having the pale portions of the plumage ashy grey, *C. capellanus* as having these parts nearly white, and *C. sharpii*, which inhabits Siberia, Turkestan, Afghanistan, and a portion of India as having these parts drab-grey.

603. JUNGLE CROW.

CORVUS MACRORHYNCHUS.

Corvus macrorhynchus, Wagler, Syst. Av. *Corvus* sp. 3 (1827); Temm. and Schlegel, Faun. Jap. Aves, p. 79, pl. 39; (Sharpe), Cat. B. Br. Mus. iii. p. 38; Oates, F. Brit. Ind. Birds, i. p. 17; *C. levaillantii* Less. Traité d'Orn. p. 328 (1831); (Sharpe), tom. cit. p. 39; *C. culminatus*, Sykes, P.Z.S. 1832, p. 96; Sharpe, tom. cit. p. 20; *C. japonensis*, Bp. Consp. i. p. 386 (1850); (Sharpe), tom. cit. p. 41; *C. sinensis*, Horsf. and Moore, Cat. B. Mus. E. Ind. Co. ii. p. 556 (1856–58); David and Oust. Ois. Chine, p. 367; Tacz. F. O. Sib. O. p. 530.

Karrial, Hind.; *Dad-kag*, Beng.; *Kaki*, Tel.; *Kaka*, Tam.; *Ulak-pho*, Lepch.; *Ulak*, Bhut.; *Goyegamma-Kaka*, Ceyl.; *Hashibuto-garasu*, Jap.

ad. (India). Entire plumage deep black, glossed with purple and green; feathers on the sides and back of neck disintegrated and nearly glossless; feathers on the throat only lanceolate; bill very stout; legs and bill black; iris dark brown. Culmen 2·4, wing 12·5, tail 8·2, tarsus 2·2 inch. Sexes alike.

Hab. Eastern Siberia, Japan, Corea, China, India, and the islands of S.E. Asia.

In habits it closely resembles *C. corone*, but in India it not only frequents the jungles, but also towns and villages. It breeds in January and February, making a nest like that of *C. corone* and deposits 4 or 5 eggs, greenish in colour marked with brown and measuring about 1·7 by 1·2.

604. RAVEN.

CORVUS CORAX.

Corvus corax, Linn. Syst. Nat. i. p. 155 (1766); Naum. ii. p. 43, Taf. 53, fig. 1.; Hewitson, i. p. 220, pl. lvii.; Gould, B. of E. iii. pl. 220; id. B. of Gt. Brit. iii. pl. 57; Newton, ii. p. 259; Dresser, iv. p. 567, pl. 262, fig. 3, 265, fig. 1; Audub. B. Am. pl. 224; David and Oust. Ois. Chine, p. 266; Sharpe. Cat. B. Br. Mus. iii. p. 14; Oates, F. Brit. Ind. Birds, i. p. 14; Saunders, p. 241; Lilford, ii. p. 44, pl. 19; Tacz. F. O. Sib. O. pp. 525–529; Ridgway, p. 361; *C. carnivorus*, Bartr. Trav. E. Flor. p. 290 (1793); Baird, B. N. Am. p. 560, pl. xxi.; *C. leucophæus*, Vieill. Nouv. Dict. viii. p. 27 (1817); *C. tibetanus*, Hodgs. Ann. and Mag. Nat. Hist. 2nd ser. iii. p. 263 (1849).

Corbeau, French; *Corvo*, Portug.; *Cuervo*, Span.; *Corvo imperiale*, Ital.; *Kolkrabe*, Germ.; *Raaf*, Dutch; *Hrafn*, Icel.; *Ravn*, Dan. and Norweg.; *Korp*, Swed.; *Korppi*, Finn.: *Voron*, Russ.; *Kargh*, Candahar; *Domkak*, *Doda*, Hind.; *Watari-garasu*, Jap.

♂ *ad.* (Sweden) Deep black, richly glossed, especially on the upper parts with steel-blue and purple; feathers on the throat lanceolate, elongated, richly glossed with purple; tail almost wedge-shaped; bill and legs shining black; iris brown. Culmen 3·7, height of the bill at base 1·1, wing 16·2, tail 10·1, tarsus 2·65 inch. The female is similar, but usually rather smaller and slightly duller, and the young bird is much duller, and has the throat-feathers loose in texture, and not lanceolate.

Hab. The whole of Europe; Northern and Central Asia, south to the Punjab, and Tibet; North America south to Mexico.

As a rule it is extremely wary and cautious, though where it is not molested it is comparatively tame. It affects rocky localities and open country in preference to the woodland. Its flight is bold and strong and in the spring it may be seen performing aerial evolutions. Like its congeners it is omnivorous, but feeds chiefly on carrion, fish thrown up on the shores, small mammals, grubs, worms, and even grain, when more suitable food is absent. Its note is a deep hoarse croak, which in the spring is often modulated into a gulping and more musical sound; it is also an excellent mimic. It breeds early in the year, placing its nest, which is bulky and constructed of sticks, roots, &c., lined with wool, down, or any soft material, on a tree or rock, and in February or March deposits 4 to 6, sometimes even 8 eggs, which are pale greenish blue or dull olive-greenish marked with faint blackish shell-markings, and blackish or blackish brown surface-blotches, which are generally scattered over the surface of the shell; in size they average about 1·82 by 1·30, but they vary a good deal both in size and markings. Taczanowski recognises several subspecies of the Raven (F.O.Sib.O. pp. 526–529): viz. *Corvus corax sibiricus* from Eastern Siberia, *C. c. ussurianus* from Manchuria, *C. c. kamtschaticus* from Kamchatka, and *C. c. behringianus* from the Commander Islands, but I prefer to unite all these with *C. corax.*

605. BROWN-NECKED RAVEN.

CORVUS UMBRINUS.

Corvus umbrinus, Sundevall, K. Vet. Ak. Handl. 1838, p. 199 (ex-Hedenborg, MS.); Shelley, B. of Egypt, p. 158; Dresser, iv. p. 577, pl. 262, fig. 1, 265, fig. 2; Sharpe, Cat. B. Br. Mus. iii. p. 17; Oates, F. Brit. Ind. Birds, i. p. 15.

Ghurab el nohi, Arabic.

ad. (Egypt). Head and neck glossy dark umber-brown; feathers on the neck white at the base; upper and under parts deep black, glossed with steely or violet blue, the under parts with a few dark umber-brown feathers; bill and legs black, the latter with a brownish tinge; iris dark brown. Culmen 2·9, wing 15·5, tail 8·6, tarsus 2·9, middle toe 2·2 inch. Sexes alike.

Hab. Egypt and Palestine, east to Afghanistan, Sind, and Mekrán.

Frequents desert and rocky localities and is said to be tolerably tame, frequenting villages and slaughter-houses in search of offal. In general habits it resembles *C. corax* and like that species feeds on carrion, grubs, insects, and also on dates and grain. It places its nest on rocks or trees, constructing same of sticks, roots, &c., lined with rootlets, wool, or hair, and in February or March deposits 4 to 6 eggs, like those of *C. corax* but richer in colour, and measuring about 1·92 by 1·26.

606 Irby's Raven.

CORVUS LEPTONYX.

Corvus leptonyx, Peale, U.S. Expl. Exp. viii. p. 105 (1848); Sharpe, Cat. B. Br. Mus. iii. p. 19; *C. tingitanus*, Irby, Ibis, 1874, p. 264; Dresser, iv. p. 563, pl. 262, figs. 4–6.

l'Hŏráhb, Arabic.

ad. (Morocco). Resembles *C. corax*, but is smaller, the lanceolate feathers extend only over the upper neck, are smaller, and to some extent bifurcate; bill short and stout; wing short; entire plumage deep black, glossed with steel blue; upper surface of wings tinged with brown. Culmen 2·5, height of bill at base 1·0, wing 13·8, tail 7·75, tarsus 2·5 inch.

Hab. North-west Africa, Canary Islands, and Madeira.

Frequents the low flat country and in general habits resembles *C. corax,* but unless persecuted it is tame and confiding, visiting refuse heaps near the towns and villages in search of food. It places its nest, which is built of sticks, and lined with grass and rootlets, on trees or rocks, and is said sometimes to nest in communities. The eggs, 4 to 7 in number, are laid in April or May, and resemble those of *C. corone,* but are generally brighter in colour and measure about 1·69 by 1·24.

607. Fantail Raven.

CORVUS AFFINIS.

Corvus affinis, Rüpp. Neue Wirbelth. p. 20, Taf. 10, fig. 2; Heugl. Orn. N. O. Afr. p. 504; Dresser, iv. p. 559, pl. 262, figs. 5–7; (Sharpe), Cat. B. Br. Mus. iii. p. 46.

♂ *ad.* (Palestine). Glossy black, glossed with steely violet or steel-blue, especially on the upper parts; head and neck duller, the throat shaded with brown, the feathers lanceolate, bifurcate at the tip; nasal bristles very stiff and directed upwards and forwards; wings very long, the secondaries long; beak and legs black; iris brown. Culmen, 2·5, width of lower mandible at base nearly 2, wing 14·5, tail 6·4, tarsus 2·4 inch. Sexes alike.

Hab. N.E. Africa and Palestine.

Frequents rocky and desolate localities, and in general habits resembles its congeners. It is generally seen in pairs and visits villages and camps in search of offal. Its note is a raven-like *kuck* and a somewhat chattering *kua, kua.* Its flight is peculiar, as it rather sails than flies, the motion of the wings being scarcely perceptible. Respecting its nidification I find nothing on record.

608. ROOK.

CORVUS FRUGILEGUS.

Corvus frugilegus, Linn. Syst. Nat. i. p. 156 (1766); Naum. ii. p. 78, Taf. 55; Hewitson, i. p. 226, pl. lix; Gould, B. of E. iii. pl. 224; id. B. of Gt. Brit. iii. pl. 60; Newton, ii. p. 289; Dresser, iv. p. 551, pl. 264; Sharpe, Cat. B. Br. Mus. iii. p. 9; Oates, F. Brit. Ind. Birds, i. p. 18; Saunders, p. 247; Lilford, ii. p. 49, pl. 22.

Corbeau-Freux, French; *Gralha*, Portug.; *Corneja calva*, *Chaya*, Span.; *Corvo, Corvo-nero*, Ital.; *Saatkrähe*, Germ.; *Roek*, Dutch; *Kornkrage*, Dan.; *Blaakraake*, Norw.; *Raka*, Swed.; *Pieni-Korppi*, Finn.; *Grach*, Russ.

♂ *ad.* (England). Deep black, the head, neck, and under parts glossed with bluish purple, the upper parts with violet-purple; base of the bill, space round the eye and chin denuded of feathers; bill and legs black; iris blackish brown. Culmen 2·35, wing 12·75, tail 6·6, tarsus 2·15 inch. Sexes alike. The young bird is duller in colour, and has the base of the bill scantily covered with loose feathers.

Hab. The whole of Europe from about 60° N. Lat. in summer, down to the Mediterranean in winter; Northern Africa; Asia as far east as Kashmir and the Punjab.

Essentially gregarious in its habits, the Rook is always seen in large or small flocks and frequents the fields where it follows the plough to pick up worms and insects which have been exposed. It also feeds on shell-fish and fish that have been cast up on the seashore, acorns, beechnuts and fruit, and it is particularly fond of walnuts; grain it also eats and will feed on carrion. The note is a somewhat harsh caw subject to considerable modulation especially during the pairing season.

Rooks nest in colonies, often of large size, placing their nests on tolerably high trees, and usually commence nidification in March. The nest is bulky, constructed of sticks and lined with fine roots, wool, straw, &c., and the eggs, 4 to 5 or 6 in number, resemble those of the Carrion Crow, but are as a rule somewhat smaller, averaging about 1·52 by 1·12, and are subject to considerable variation in colour and markings.

609. Eastern Rook.

CORVUS PASTINATOR.

Corvus pastinator, Gould, P.Z.S. 1845, p. 1; (David and Oust.), p. 369; (Sharpe), Cat. B. Br. Mus. iii. p. 10; (Tacz.), F. O. Sib. O. p. 537.

ad. (Japan). Differs from *C. frugilegus* in having the head and neck glossed with purple and not with green, and in having only the space from the base of the bill to the eye, and a small patch at the base of the lower mandible bare. Culmen 1·85, wing 11·75, tail 7·2, tarsus 2·05 inch.

Hab. Eastern Siberia, Kan-su, Mongolia, Corea, China, and Japan.

In habits and nidification it does not differ from *C. frugilegus.*

CYPSELUS, Illig., 1811.

610. Swift.

CYPSELUS APUS.

Cypselus apus, (Linn.), Syst. Nat. i. p. 344 (1766); Naum. vi. p. 123, Taf. 147, fig. 2; Hewitson, i. p. 267, pl. lxv. fig. 5; Gould, B. of Gt. Brit. ii. pl. 3; Newton, ii. p. 364; Dresser, iv. p. 58, pl. 266; (Hartert), Cat. B. Br. Mus. xvi. p. 442; Blanf. F. Brit. Ind. Birds, iii. p. 165; Saunders, p. 261; Lilford, ii. p. 38, pl. 16; *C. murarius* (Meyer), Vög. Livl, &c. p. 143 (1815); Gould, B. of E. ii. p. 53.

Martinet de muraille, French; *Andorinhão*, Portug.; *Avion, Falsia*, Span.; *Rondone*, Ital; *Thurmsegler, Mauersegler*, Germ.; *Gierzwaluw*, Dutch; *Muur-svale*, Dan.; *Taarnsvale*, Norw.; *Tornsvala*, Swed.; *Nahkasiipi, Luniapääsky, Tervapääsky*, Finn.; *Streshbaschinnoi*, Russ.

ad. (Sweden), Blackish brown, with a faint greenish gloss; chin dull white, with obsolete dark stripes; bill and feet blackish; iris dark brown. Bill from gape 0·65, wing 6·5, tail 3·15, tarsus 0·55 inch. Sexes alike. The young bird has the throat whiter, and most of the feathers are margined with dull white.

Hab. The whole of Europe, north to 69°, in winter migrating down to S. Africa and Madagascar; Asia as far east as Central Asia, Afghanistan, and Kashmir. Essentially a bird of the air it is really only at home when on the wing, and on the ground is very helpless.

It frequents old towns, ruins, steeples, and rocks, and its note is a loud, harsh, prolonged screech or scream. It feeds entirely on insects of various kinds, chiefly hymenoptera and diptera, which it captures on the wing. Its flight is extremely rapid, and is performed by quick flaps of its long wings, and long glidings with the wings extended and seemingly motionless. It breeds in a cranny in a cliff, an old building, or a hollow tree, constructing a somewhat rude cup-shaped nest of straws intermixed with small rootlets, feathers, moss, hair, or wool glued together by a viscid mucous secretion which forms abundantly in the gape of the bird. The eggs, 2 to 4 in number, are usually deposited in June, and are pure white, glossless, and elongated in shape, measuring about 1·02 by 0·67.

611. SUBSP. CYPSELUS PEKINENSIS.

Cypselus pekinensis, Swinhoe, P.Z.S. 1870, p. 435; David and Oust. Ois. Chine, p. 68; (Hartert) Cat. B. Br. Mus. xvi. p. 444.

ad. (Siberia). Differs from *C. apus* only in being rather paler on the upper parts, especially on the forehead, and to some extent also on the tail.

Hab. E. Siberia, Mongolia, eastern Central Asia, and China.

Does not differ from *C. apus* in habits or nidification except that it nests in hollow trees as often as in rocks or buildings, whereas *C. apus* seldom builds in hollow trees; and its note is said to be softer.

612. PALLID SWIFT.

CYPSELUS MURINUS.

Cypselus murinus, Brehm, Vogelfang, p. 46 (1855); (Hartert) Cat. B. Br. Mus. xvi. p. 446; *C. pallidus*, Shelley, Ibis, 1870, p. 445; Dresser, iv. p. 597, pl. 268.

Andorinho Africano, Portug.; *Avion*, Span.

ad. (Spain). Differs from *C. apus* in being dull soft mouse grey in colour, rather paler on the forehead, and darker on the wings and tail; chin and upper throat whitish grey; a black spot in front of the eye; bill black; feet purplish brown; iris brown. Culmen 0·3, gape 0·65, wing 6·4, tail 2·7, tarsus 0·45 inch.

Hab. Madeira and Canaries; southern Spain, and some of the Mediterranean Islands; north Africa, east to the Persian Gulf and Sind; in winter as far south as Damaraland.

Does not differ from *C. apus* in habits or nidification.

613. MADEIRAN SWIFT.

CYPSELUS UNICOLOR.

Cypselus unicolor, Jardine, Edinb. Journ. Nat. and Geogr. Sc. i. p. 242, pl. vi. (1830); Dresser, iv. p. 601, pl. 868; (Hartert), Cat. B. Br. Mus. xvi. p. 448

Andorhina da terra, in Madeira.

ad. (Madeira). Differs from *C. apus* in being smaller, having the tail more deeply forked, the chin and throat barely paler than the rest of the under parts, and the latter part slightly barred with dull brownish white. Gape 0·6, wing 5·8, tail 3·1, the outermost feathers 1·05, longer than the middle ones, tarsus 0·4 inch.

Hab. Madeira and the Canary Islands; a straggler to the Cape Verde Islands.

In general habits it closely resembles *C. apus.*

614. WHITE-RUMPED SWIFT.

CYPSELUS AFFINIS.

Cypselus affinis, Gray and Hardw. Ill. Ind. Zool. i. pl. 35, fig. 2 (1832); Dresser, iv. p. 591, pl. 267; (Hartert), Cat. B. Br. Mus. xvi. p. 453; Blanf. F. Brit. Ind. Birds, iii. p. 168; *C. abyssinicus,* Streubel, Ibis, 1848, p. 354; *C. galilejensis,* Antinori Naumannia, 1855, v. p. 307; *C. caffer* (Boie), Isis, 1844, p. 165, partim.

Ababil, Babila, Hind.; *Pákoli,* Mahr.; *Wæhætaniya,* Cing.

ad. (Palestine). Head and neck mouse-brown, paler on the forehead; back black, glossed with purple; wings, tail, and tail-coverts dark brown, the first quill and the coverts narrowly margined with white; rump, chin, and throat white; under parts blackish brown, glossed with purple; bill and feet black; iris dark brown. Culmen 0·28, gape 0·6, wing 5·05, tail 1·64, tarsus 0·32 inch. Sexes alike.

Hab. North-east Africa and west Africa, except Algeria and north of the Atlas range; south Africa to the Cape; Palestine and Persia east to India and Ceylon. East of the Bay of Bengal it is replaced by *C. subfurcatus* Blyth which is darker on the head, upper tail-coverts and tail, the last being longer and more furcated.

In general habits it differs but little from *C. apus*, but is as a rule a resident and not a migrant; its flight is rather less powerful, and its note is even shriller than that species. Like it *C. affinis* feeds on insects which it captures on the wing. It is gregarious and breeds in companies, placing its nest, which is like that of *C. apus*, in cliff-crannies, houses, and old buildings, depositing from February to August 2 to 4 white glossless eggs which in size average about 0·87 by 0·57. The bird from Tunis has been described by Dr. Reichenow as distinct (*Micropus koenigi* Reichen., Orn. Monatsb., 1894 p. 192) but, it appears to me, without valid reason.

615. SIBERIAN SWIFT.

CYPSELUS PACIFICUS.

Cypselus pacificus (Latham), Ind. Orn. Suppl. p. lviii. (1801); Oates B. of Burma, ii. p. 1; Seebohm, B. Jap. Emp. p, 177; (Hartert), Cat. B. Br. Mus. xvi. p. 448; Tacz. F. O. Sib. O. p. 168; Blanf. F. Brit. Ind. Birds, iii. p. 167; *C. australis*, Gould, P.Z.S. 1839, p. 141; id. B. of Austral. ii. pl. 11; Diggles, B. of Austral. p. 20, pl. 20; *C. vittatus*, Jard. and Selby, Ill. Orn. iv. pl. 39 (1843).

ad. (E. Siberia). Upper parts blackish brown; across the rump a broad white band, the feathers with dark brown shafts; chin and throat whitish, the feathers with dark shafts; rest of the under parts brown, the feathers with white margins and subterminal blackish bands; bill black; feet purplish black; iris deep brown. Wing 7·0, outer tail feathers 3·2, the middle ones 1·95; tarsus 0·45 inch. Sexes alike. The young birds have the feathers on the upper parts with pale margins.

Hab. Eastern Siberia, north to Kamchatka; Assam, Cachar, and Manipur, throughout the Burmese countries; Mongolia, China, Corea, Japan; in winter, south to Australia.

In general habits it resembles *C. apus*, but its note is said to be softer and less loud, and it is less noisy than that species. Its nest and eggs are also similar, but it appears to breed nearly always, if not always, in crannies in the rocks, usually in the mountains.

616. ALPINE SWIFT.

CYPSELUS MELBA.

Cypselus melba (Linn.), Syst. Nat. i. p. 345 (1766); Naum. vi. p. 115, Taf. 147, fig. 1; Hewitson, i. p. 269, pl. lxv. fig. 6; Gould, B. of E. ii. pl. 35, fig. 2; id. B. of Gt. Brit. ii. pl. 4; Newton, ii. p. 372; Dresser, iv. p. 603, pl. 269; (Hartert). Cat. B. Br. Mus. xvi. p. 438; Blanf. F. Brit. Ind. Birds, iii. p. 164; Saunders, p. 265; Lilford, ii. p. 40, pl. 17; *C. alpinus* (Scopoli), Ann. i. Hist. Nat. p. 166 (1769).

Martinet à ventre blanc, French; *Andorinhão gaivão,* Portug.; *Avion,* Span.; *Rondone de mare,* Ital.; *Alpensegler,* Germ.; *Stresh-belobrukey* Russ.

♂ *ad.* (Switzerland). Upper parts, with sides of the head and neck, flanks, under wing- and tail-coverts, and a band across the breast brown, the back lighter and with a faint metallic gloss, the under wing-coverts with narrow terminal margins; chin, throat, lower breast, and abdomen white; bill blackish; feet dull yellowish brown; iris dark brown; tarsus covered in front with brown feathers. Gape 1·0, wing 8·7, tail 3·8, tarsus 0·6 inch. Sexes alike. The young bird is greyer and darker, and the brown feathers are margined with white.

Hab. South Europe, north to the Alps, of rare occurrence in northern France, England, Germany, and Heligoland; north Africa; Asia as far east as Darjiling and Assam, and south to Ceylon; in South Africa it is replaced by a closely allied species *C. africanus,* Temm.

This, the largest of our Swifts, is, like its allies, essentially a bird of the air, and seldom perches, being unable to raise itself from the level ground if it falls. It is gregarious and obtains its food, which consists of small winged insects, when on the wing. Its note is a loud harsh scream, frequently uttered. It breeds in communities, placing its nest, which is constructed of straws, grass-bents, leaves, and feathers worked together with the viscous spittle which the bird secretes, in an old building or a suitable cranny in the rocks. The eggs are pure white, without gloss, 3 to 4 in number, are usually deposited in May or June, and measure about 1·21 by 0·75.

ACANTHYLLIS, Boie., 1826.

617. NEEDLE-TAILED SWIFT.

ACANTHYLLIS CAUDACUTA.

Acanthyllis caudacuta (Lath.), Ind. Orn. Suppl. p. lvii. (1801); Gould, B. of Austral. ii. pl. x.; Newton P.Z.S. 1880, p. 1; Dresser, iv. p. 613, pl. 270; (Hartert), Cat. B. Br. Mus. xvi. p. 472; Tacz. F. O. Sib. O. p. 170; Saunders, p. 265; Lilford, ii. p. 42, pl. 18.

Ama-tsubame, Jap.

ad. (Siberia). Crown, sides of head, and nape black, glossed with green; forehead white; back and rump brown, fading to whity brown on the middle of the back; wings, upper tail-coverts, and tail black, glossed with bottle green, the inner secondaries white on the inner web; terminal shafts of tail-feathers naked, spinous and pointed; chin, throat, vent, and under tail-coverts white; rest of under parts sooty brown, but flanks white, mixed with glossy blue-black; bill black; legs livid purplish; iris brown. Gape 0·75, wing 1·0, tail 2·4, tarsus 0·7 inch. Sexes alike.

Hab. Eastern Asia, as far west as Irkutsk, and north as Jakutsk; Mongolia, Manchuria, China, and Japan; Australia and Tasmania in winter; has been twice obtained in England, but nowhere else in Europe.

As a rule it is a gregarious species being usually seen in flocks, and nests in communities. Like the true Swift it is always to be seen on the wing, and is the swiftest of all the family. Unlike the Swift its note is weak and more like that of the Swallow. Its food consists of insects which it captures on the wing. It breeds in holes in rocks and cliffs and in hollow trees. I have not seen a nest, which probably resembles that of *C. melba*, but have two eggs, obtained in Manchuria which are pure white, in grain of shell like those of *Cypselus melba*, and measure 1·22 by 0·78 and 1·24 by 0·76 respectively.

CAPRIMULGUS, Briss., 1760.

618. European Nightjar.

CAPRIMULGUS EUROPÆUS.

Caprimulgus europæus, Linn. Syst. Nat. i. p. 346 (1766); Hewitson, i. p. 270, pl. lxvi.; Naum. vi. p. 141, Taf. 148; Gould, B. of E. ii. pl. 51; id. B. of Gt. Brit. ii. pl. 1; Newton, ii. p. 377; Dresser, iv. p. 621, pl. 271; Hartert, Cat. B. Br. Mus. xvi. p. 526; Blanf. F. Brit. Ind. Birds, iii. p. 187; Saunders, p. 267; Lilford, ii. p. 29, pl. 13; *C. smithii*, Bp. Consp. i. p. 59 (1850); *C. unwini*, Hume, Ibis, 1871, p. 406; Hartert, Cat. B. Br. Mus. xvi. p. 528; *C. plumipes*, Prjev. Mongol. i Strana Tangut. ii. p. 22 (1876), Hartert, tom. cit. p. 530.

Engoulevent ordinaire, French; *Noitibo*, Portug.; *Papavientos*, Span.; *Nottolone*, Ital.; *Ziegenmelker*, *Tagschläfer*, German; *Geitenmelker*, Dutch; *Natteraon*, Dan. and Norweg.; *Nattskärra*, Swed.; *Kehräjä*, Finn.; *Kozodoy-polunotschnik*, Russ.

♂ *ad.* (Sweden). Upper parts dark ashy-grey pencilled, vermiculated and streaked with blackish brown and warm buff; primaries blackish, marked with rufous on the outer web, the first three with a white spot near the end of the inner web; tail with the two outer feathers on each side broadly terminated with white; under parts greyish buff, narrowly barred with blackish brown, the abdomen and crissum orange buff; on each side of, and in the middle of the throat a white patch; beak and iris black; legs reddish brown. Gape 1·2, wing 7·8, tail 5·5, tarsus 0·8 inch. In the female the white spots on the wings and tail are replaced by dull orange buff, slightly marbled with brown.

Hab. Europe generally, as far north as Trondhjem in Norway, Gefle in Sweden, and Kuopio in Finland; in winter migrating down to S. Africa; Asia as far east as Lake Baikal in the north, and Afghanistan, Kashmir, and Mongolia in the south, visiting the Punjab, Sind, and occasionally the N.W. Provinces of India in winter.

During the day this species remains concealed in some shady place, if on a branch perched lengthways, and emerges when the shades of evening set in. It frequents open glades in the woodlands where it may be seen flying noiselessly round, hawking after winged insects. It feeds on moths, beetles, and insects of various kinds, which are chiefly captured on the wing. Its note when resting is a churring sound, and on the wing it utters a loud whistle and strikes the points of its wings together, producing a loud sound. It makes no nest, but in June deposits its two eggs in a slight hollow on the ground in the woods or on the open heath. These are elongated, tapering equally towards each end, in ground colour varying from nearly pure white to greyish or pale buffy white and are blotched, marbled and spotted with pale purplish or purplish grey underlying, and dark brown surface-markings, and in size average about 1·23 by 0·85.

West European specimens are as a rule darker, and Asiatic ones (*C. unwini* and *C. plumipes*) are paler, but this difference is very variable, as I have seen European birds as pale and grey as others from Asia.

619. RUSSET-NECKED NIGHTJAR.

CAPRIMULGUS RUFICOLLIS.

Caprimulgus ruficollis, Temm. Man. d'Orn. i. p. 438 (1820); Gould, B. of E. ii. pl. 52: Newton, ii. p. 386; Dresser, iv. p. 633, pl. 273; Hartert, Cat. B. Br. Mus. xvi. p. 531; Saunders, p. 269; Lilford, ii. p. 33, pl. 14.

Engoulevent à collier roux, French; *Noitibó*, Portug.; *Chotacabras, Zumaya*, Span.; *El Háma, Mĕlil*, Arabic.

♂ *ad.* (England). Resembles *C. europæus* in general, but is larger, paler, more rufous, especially on the under parts, the chin is reddish ochraceous, below which there is a white patch larger than in *C. europæus*; lower neck encircled by a broad yellowish rufous collar, marked and varied with black and dark brown; bill blackish brown; legs dull brown; iris black. Gape 1·3, wing 7·9, tail 6·25, tarsus 0·95 inch. Female similar, but lacks the white spots on the wings and tail.

Hab. Portugal, Spain; of rare occurrence in southern France; has once been obtained in England, once in Dalmatia, and twice in Malta; is found in N. Africa as far east as Tunis, and regularly visits some of the Canary islands.

In general habits, food, etc., it does not differ from *C. europæus*, and like that species forms no nest, but places its two eggs in a depression in the ground, generally amongst scrubby brushwood. These resemble those of *C. europæus* but are slightly larger, and as a rule scarcely so variable.

In N.W. Africa, south of the Atlas range, paler and more rufous varieties occur, and this form has been described as a subspecies by Baron Carlo von Erlanger and figured by him (J. f. Orn. 1899, taf. xi.) under the name *C. ruficollis desertorum*.

620. INDIAN-NIGHTJAR.

CAPRIMULGUS INDICUS.

Caprimulgus indicus, Latham, Ind. Orn, ii. p. 588 (1790); Blanf. F. Brit. Ind. Birds, iii. p. 190; *C. jotaka*, Temm. and Schlegel, F. Jap. Aves, p. 37, pl. 12 (1847); David and Oust, Ois. Chine, p. 67; Hartert, Cat. B. Br. Mus. xvi. p. 552; Tacz. F. O. Sib. O. p. 162; *C. kelaarti*, Blyth, J.A.S.B. xx. p. 175 (1851); Legge, B. of Ceyl. p. 337; Hartert, tom. cit. p. 555.

Yotaka, Jap.; *Chippak*, Hindu.

♂ *ad.* (India). Upper parts dark brown, spotted and blotched with black; crown, nape, and back with black spots and streaks throughout; an indistinct collar of buff spots; wing-coverts with whitish or fulvous spots; scapulars boldly marked with large black spots and broad buff margins; first four primaries with a large white spot in the middle; tail-feathers except the middle ones with well defined black bars, all but the middle ones, with white subterminal bands; under parts buff, barred with brown, darker on the breast; a large white spot on the throat, and a moustachial stripe buffy white; bill vinous brown, paler at the base, the tip black; legs vinous brown; iris dark brown. Wing 8·8, tail 5·7, tarsus, feathered in front, 0·65 inch. The female lacks the white on the tail-feathers, and the spots on the primaries are buff, the spot on the throat being also buff. Compared with *C. europæus*, this species is much darker and more boldly marked with black, especially on the crown, and has more white on the throat.

Hab. India, Ceylon, Burma, Cochin China, Manchuria, Mongolia, Kan-su, south-eastern Siberia, Corea, Japan; in the winter it migrates south to Malacca, Java, Borneo, and New Guinea.

In most of its central range this species appears to be a resident, but in other parts migratory. It frequents forests and jungle and in its general habits does not materially differ from *C. europæus*, from which species it can readily be distinguished in having a subterminal white band on all but the middle tail-feathers, whereas *C. europæus* has only the two outer feathers on each side tipped with white. Its cry is described as *tchouk*, *tchouk*, *tchouk*, continuously uttered in the twilight. In Dauria eggs have been found in June and August, and in India it breeds from March to May, and probably therefore raises two broods in the season. The eggs, 2 in number, are placed on the ground, no nest being made, and are dull white blotched with three shades of umber and one shade of ashy brown, and measure 1·22 by 0·88 and 1·19 by 0·91. Indian specimens of this bird are smaller than those from Japan.

621. EGYPTIAN NIGHTJAR.

CAPRIMULGUS ÆGYPTIUS.

Caprimulgus ægyptius, Licht. Verz. Doubl. p. 59 (1823), Shelley; B. of Egypt, p. 75, pl. viii.; Dresser, iv. p. 629, pl. 272; Hartert, Cat. B. Br. Mus. xvi. p. 562; Saunders, p. 270; Lilford, ii. 36, pl. 15; Koenig, J. f. O. 1896, Tab. vi. fig. 2 (egg); *C. isabellinus*, Temm. Pl. Col. 379 (1825); *C. arenicolor*, Severtz. Ibis, 1875, p. 491.

Engoulevent isabelle, French; *El Háma*, Arab.

♂ *ad.* (Turkestan). Sandy greyish isabelline, vermiculated and barred with black; inner webs of the primaries chiefly white, but no white spots on the wings or tail; tail vermiculated and barred with black; under parts sandy isabelline, narrowly barred with blackish; a patch on the throat white; legs reddish brown, beak dark brown; iris black. Gape 1·1, wing 8·1, tail 5·3, tarsus 0·9 inch. The female differs merely in being slightly duller in colour and markings, and lacks the white wing-spots.

Hab. N. Africa (Algeria, Tunis, Egypt, and Nubia); Transcaspia, Turkestan, Afghanistan, and Baluchistan; has once occurred in England, once in Heligoland, twice in Sicily, and three times in Malta.

In general habits it resembles *C. europæus*, but frequents the sand deserts and chiefly the small groves on the borders of the true desert, and is a migrant, passing south for the winter, at least as far as Fashoda. Its food consists, like that of our Nightjar, of insects of various kinds. Its note is also similar but softer and less prolonged, and when disturbed it utters a little snapping sound. It breeds in May and deposits its two eggs on the sand, making no nest. These are dull pale greyish yellow with faint ashy grey shell-markings, and clay-yellow surface-blotches, and measure about 1·33 by 0·82.

There is considerable individual variation both in colour and size in this species, some being lighter and more isabelline, and others darker and greyer in tone of colour, but I cannot admit any of these even to subspecific rank. Baron von Erlanger, however, describes the pale isabelline variety as a subspecies and figures (J. f. O. 1899, taf. xii.) the two extreme forms.

622. SYKES'S NIGHTJAR.

CAPRIMULGUS MAHRATTENSIS.

Caprimulgus mahrattensis, Sykes, P.Z.S. 1832, p. 83 ; Gould, B. of As. i. p. 19 ; Blanf. E. Persia, ii. p. 128 ; Barnes, J., Bombay Nat. Hist. Soc. iv. pl. 1 (eggs) ; Hartert, Cat. B. Br. Mus. xvi. p. 561 ; Blanf. F. Brit. Ind. Birds, iii. p. 184 ; *C. arenarius*, Blyth, J.A.S.B. xv. p. 21 (1846).

♂ *ad.* (India). Resembles *C. ægyptius* in coloration, but has a shorter wing, the three first primaries rufescent isabelline at the base, otherwise dark brown with large white spots in the middle of the feather ; the two outer tail-feathers white on about one-third of their length ; under tail-coverts unbarred buff ; bill dark brown ; legs pale fleshy brown ; iris dark brown. Wing 6·9, tail 4·2, tarsus, which is only feathered at the base, 0·8 inch. The female differs in having the spots on the primaries buff, and the white tips to the two outer tail-feathers shorter and tinged with sandy buff.

Hab. Afghanistan, Baluchistan ; the plains of India east to Upper Bengal and south to Belgaum.

In general habits agreeing with *C. ægyptius*, like that species it is usually to be met with in sandy localities. It breeds, in Sind, in May and June, depositing two eggs, which are greyish white marbled and blotched with very pale grey or greyish lilac shell-markings, and pale sepia-brown overlying surface-spots and blotches, and measure about 1·13 by 0·80.

PICUS, Linn., 1766.

623. GREAT BLACK WOODPECKER.

PICUS MARTIUS.

Picus martius, Linn. Syst. Nat. i. p. 173 (1766); Naum. v. p. 253, Taf. 131; Hewitson, i. p. 238, pl. lxi. fig. 1; Gould, B. of E. iii. pl. 225; id. B. of Gt. Brit. iii. pl. 73; Newton, ii. p. 482; (Dresser), v. p. 3, pl. 274; Hargitt, Cat. B. Br. Mus. xviii. p. 518; Saunders, p. 278.

Pic noir, French; *Picchio nero*, Ital.; *Zwarte Specht*, Dutch; *Schwarz-Specht*, German; *Sortspet*, Dan.; *Svartspet*, Norweg.; *Spilkråka*, Swed.; *Palokärki*, Finn.; *Dyatell-Jelna*, Russ.

♂ *ad.* (Finland). Glossy black, tinged with brown on the breast; wings and tail blackish brown; crown crimson, narrowing into an occipital crest in the nape; tarsus feathered in front for about two-thirds of its length; bill bluish white becoming blackish towards the tip; legs and feet dark grey; iris light yellow. Culmen 2·6, wing 9·0, tail 7·0, tarsus 1·3 inch. The female is duller and browner in colour, and the crimson on the head is confined to a patch on the occiput.

Hab. Europe, in pine forests from Lapland down to the Pyrenees and Sicily; of rare occurrence on the Iberian peninsula, but its occurrence in Britain has not been substantiated; Asia east to Kamchatka and Japan, south to Mongolia, Manchuria, and Northern China.

Frequents forests where old and decayed trees are numerous, and is as a rule shy and wary. Its note is a loud *kree, kree, kree,* which is often uttered, especially before rainy weather. Its flight is heavy, but swift, consisting of a succession of bow-shaped dips, and it seldom flies far at a time. Its food consists chiefly, if not entirely, of insects of various kinds, especially ants. It bores its rather deep nest-hole at some height in an aspen, fir, birch, or poplar tree, and in April or May deposits 4 eggs on the chips at the bottom of the nest-hole. These are glossy white tapering towards the smaller end and measure about 1·16 by 1·01.

624. RICHARDS' WOODPECKER.

PICUS RICHARDSI.

Picus richardsi (Tristram), P.Z.S. 1879, p. 386, pl. xxxi; (Hargitt, Cat. B. Br. Mus. xviii. p. 506; (Seebohm) Ibis, 1892, p. 248.

♂ *ad.* Upper parts, wings, tail (except as below) neck, and upper breast glossy black; forehead, crown, crest, and malar stripe rich scarlet-crimson; lower back, rump, lower breast, and under parts white; bases and tips of most of the primaries white; sides of the upper throat and ear-coverts finely streaked with white; feathers on the lower abdomen black, tipped with white; bill dusky grey, paler at the tip and at the base below; legs dark grey; iris light yellow. Culmen 2·5, wing 9·65, tail 6·80, tarsus 1·2 inch. The female is browner in tinge of colour and lacks the red colour on the head.

Hab. Corea and the island of Tsu-sima between Corea and Japan.

I find nothing on record respecting its habits or nidification in which it probably resembles *P. martius.*

DENDROCOPUS, Koch, 1816.

625. PIED WOODPECKER.

DENDROCOPUS MAJOR.

Dendrocopus major (Linn.), Syst. Nat. i. p. 176 (1766); (Naum.), v. p. 298, Taf. 134; (Hewitson), i. p. 240, pl. lxi. fig. 3; (Gould), B. of Gt. Brit. iii. pl. 70; Newton, ii. p. 470; (Dresser), v. p. 19, pl. 275; Hargitt, Cat. B. Br. Mus. xviii. p. 211; Tacz. F. O. Sib. O. p. 712; Saunders, p. 275; Lilford, ii. p. 6, pls. 2, 3; *D. cissa* (Pall.), Zoogr. R. As. i. p. 412 (1811); Hargitt, tom. cit. p. 214; *D. purus*, Stenj. Auk. 1884, p. 35.

Pic épieche, French; *Peto malhado,* Portug.; *Picamaderos,* Span.; *Picchio maggiore,* Ital.; *Grosser Buntspecht,* Germ.; *Bonte Specht,* Dutch; *Stor Flagspet,* Norw. and Dan.; *Större Hackspett,* Swed.; *Isompi-Tikka,* Finn.; *Obiknovennoi-Dyatell,* Russ.

♂ *ad.* (Sweden). Upper parts chiefly black; occiput crimson; forehead fulvous white; lores, cheeks, ear-coverts, sides of neck and scapulars white; quills barred with white on the outer web, as are the outer tail-feathers; under parts more or less white; lower abdomen and under tail-coverts crimson; bill lead-grey; legs greenish grey; iris pale reddish. Culmen 1·1, wing 5·8, tail 4·0, tarsus 0·95 inch. The female lacks all red on the head, and the young have the crown crimson from the frontal band to the occiput.

Hab. Europe generally, from about 70° N. lat., down to the Mediterranean; Canaries; Asia Minor; Asia east to Kamchatka and the sea of Japan, and south to Mongolia.

Frequents woodlands and the true forest, and in the summer especially is somewhat fond of solitude. As a rule it is a resident or only a partial migrant, wandering away in search of food in the winter, when it sometimes consorts with other species. Its note is a sharp *tick* or *tschick*, and in the spring it often makes a loud whirring sound by rapidly hammering a bough. Its food consists of insects of various kinds, caterpillars, larvæ, ants, &c., and it is especially useful as a destroyer of injurious insects and their larvæ; it is also said to eat nuts, conifer-seeds, and berries. It bores its nest-hole in a tree, usually one which is rotten at heart, and on the bare bottom deposits in May its 4 to 7 eggs, which are glossy white, oval, tapering towards the small end, and in size measuring about 1·0 by 0·68.

Examples from the Canaries have, as a rule, the under parts darker than average northern birds, and those from N. and N.E. Asia, especially from Kamchatka, have these parts pure white.

626. CAUCASIAN PIED WOODPECKER.

DENDROCOPUS POELZAMI.

Dendrocopus poelzami (Bogd.), Ptitz. Kavkaz. p. 121 (1879); Dresser, ix. p. 255, pl. 688; Hargitt, Cat. B. Br. Mus. xviii. p. 214; Radde, Orn. Caucas., p. 310, pl. xx.

Persidski-Dyatell, Russ.

♂ *ad.* Differs from *D. major* in being smaller, the bill more slender, and in having the under parts dark brown inclining to chocolate, and much less white on the inner wing-coverts. Culmen 1·4, wing 4·85, tail 3·0, tarsus 0·95 inch. The female differs in lacking the crimson occipital band and in being rather smaller than the male.

Hab. Caucasus.

In general habits, note, and nidification this species does not appear to differ from *D. major*.

627. WHITE-WINGED WOODPECKER.

DENDROCOPUS LEUCOPTERUS.

Dendrocopus leucopterus, Salvadori, Atti R. Ac. Sc. Tor. vi. p. 129 (1870–71); (Dresser), ix. p. 249, pl. 687; Hargitt, Cat. B. Br. Mus. xviii. p. 215; *D. leptorhynchus* (Severtz.), Ibis, 1875, p. 487.

Sokochak, Turki; *Dongouse-Kouche* in Transcaspia.

♂ *ad.* (Turkestan). Differs from *D. major* in having the forehead, sides of the head, throat, and under parts pure white; middle of the abdomen, vent, and under tail-coverts red, this colour extending up to the lower breast; quills whiter than in *D. major*, this colour covering quite as much of the area of the quills as the black. Culmen 1·25, wing 4·9, tail 3·65, tarsus 0·9 inch.

Hab. Eastern Transcaspia, Turkestan, and western Mongolia.

In habits this species resembles *D. major*, but its note is said to be softer and more frequently uttered.

628. JAPANESE PIED WOODPECKER.

DENDROCOPUS JAPONICUS.

Dendrocopus japonicus (Seebohm), Ibis, 1882, p. 24; Hargitt, Cat. B. Br. Mus. xviii. p. 216; *D. gouldii*, Stejn. Proc. U.S. Nat. Mus. 1886, p. 112 (nec. Malh.).

Akagera, Jap.

♂ *ad.* Resembles *D. major*, but is somewhat smaller, the forehead and under parts are more buff in colour, the terminal half of the outer tail-feathers is pale buff and the black bars are narrower; the scapulars have more black at the base, and the innermost secondaries are spotted with white. Culmen 1·2, wing 5·3, tail 3·3, tarsus 0·95 inch. The female lacks the red on the occiput. The young differs appreciably from that of *D. major* in having the under parts profusely streaked with black on the flanks and sides of the breast and the rest of the under parts with transverse black markings, whereas the young of *D. major* have the under parts nearly uniform buffish white.

Hab. Japan and the Kurile islands.

In habits and nidification it does not differ from *D. major*. It breeds in May, June, and July, and deposits in a hole excavated in a tree four eggs, similar to those of *D. major*.

629. ALGERIAN PIED WOODPECKER.

DENDROCOPUS NUMIDICUS.

Dendrocopus numidicus (Malh.) Mém. Acad. Metz, ii. p. 242 (1842); (Loche), Expl. Sc. Alg. Ois. ii. p. 79, pl. ix; (Dresser), v. p. 33, pl. 276; Hargitt, Cat. B. Br. Mus. xviii. p. 217.

Nokaïb, Nagab ed Djour, Arab.

♂ *ad.* (Algeria). Differs from *D. major* in having a broad pectoral gorget of crimson, slightly mixed with black, and the centre of the abdomen and vent crimson; bill dark blue-grey, the lower mandible paler; feet lead grey; iris reddish. Culmen 1·2, wing 4·8, tail 3·4, tarsus 0·9 inch. The female lacks the crimson on the occiput, and the young has the forehead blackish brown and the fore-part of the crown crimson.

Hab. Algeria.

In habits, note, and nidification this species does not appear to differ from *D. major.* It deposits 4 or 5 glossy white eggs which measure about 0·91 by 0·71.

630. MOORISH PIED WOODPECKER.

DENDROCOPUS MAURITANUS.

Dendrocopus mauritanus (L. Brehm.) Naumannia, 1855, p. 274 ; (Dresser) ix. p. 253, pl. 689, fig. 3 ; Hargitt, Cat. B. Br. Mus. xviii. p. 216.

♂ *ad.* (Tangier). Differs from *D. numidicus* in not having the broad black stripes which border the throat and fore-neck united across the neck, there being a narrow white space between, on which the feathers are tipped with scarlet, and the lateral tail-feathers are much more distinctly barred with black. Culmen 1·15, wing 4·9, tail 3·25, tarsus 0·9 inch. The female lacks the crimson occipital band.

Hab. Morocco.

In general habits and nidification not differing from *D. major.*

631. HIMALAYAN PIED WOODPECKER.

DENDROCOPUS HIMALAYENSIS.

Dendrocopus himalayensis (Jard. and Selby), Ill. Orn. iii. pl. 116 (1835) ; Hargitt, Cat. B. Br. Mus. xviii. p. 220 ; Blanf. F. Brit. Ind. Birds, iii. p. 34.

Turkan, Chamba.

♂ *ad.* (Himalayas). Differs from *D. major* in having the scapulars black, the crown and occiput crimson, the lower abdomen more fulvous and the vent and under tail-coverts only pale crimson ; bill brown, pale at the base of lower mandible ; legs and feet plumbeous brown ; iris red-brown. Gape 1·35, wing 5·2, tail 3·5, tarsus 0·9 inch. The female has the crown and occiput black.

Hab. The Western Himalayas, from Kumaun to Murree, to Afghanistan in the west, and Gilgit in the north.

In habits it does not differ from *D. major.* It breeds up to 10,000 and even 11,000 feet, from the middle of April to the end of May, generally boring its nest-hole in an oak, and depositing 4 or 5 glossy white eggs, which measure about 1·0 by 0·75.

632. CHINESE PIED WOODPECKER.

DENDROCOPUS CABANISI.

Dendrocopus cabanisi (Malherbe), J. f. O. 1854, p. 172; (Gould), B. of Asia, vi. pl. 17; Hargitt, Cat. B. Br. Mus. xviii. p. 218; Blanf. F. Brit. Ind. Birds, iii. p. 35; (Berez. and Bianchi), Ptitz. Gan-su, etc. p. 49; *P. luciani*, Malh. fide Bp. Comp. Volucr. Zygod. p. 8 (1854); *P. mandarinus*, Malh. Bull. Soc. d'Hist. Nat. Moselle, 1857, p. 17.

♂ *ad.* Differs from *D. major* in having the scapulars black and the ear-coverts tawny brown, and from *D. himalayensis* in having only the occiput crimson, and the malar band broader; feathers between the ends of the black pectoral bands tipped with red; chin, throat, and breast fulvous brown. Culmen 1·2, wing 5·0, tail 3·4, tarsus 0·95 inch.

Hab. Kan-su, Ordos, the Amdos plateau, China, and the Manipur hills.

In general habits it is said to resemble *D. major*.

633. DARJEELING PIED WOODPECKER.

DENDROCOPUS DARJILENSIS.

Dendrocopus darjilensis, Blyth, J.A.S.B. xiv, p. 196 (1845); Hargitt, Cat. B. Br. Mus. xviii. p. 221; Blanf. F. Brit. Ind. Birds, iii. p. 37; *D. majoroides* (Hodgs.), in Gray's Zool. Misc. p. 85 (1844); (Gray) Cat. Mamm. etc. Nepal, pp. 115, App. p. 155 (1846); *D. desmursi*, (Verr.) N. Arch. du Mus. vi. Bull. 7. p. 33 (1870).

Sadyer-mong-prek, Lepcha.

♂ *ad.* (Nepal). Nasal plumes black; forehead, lores, a narrow supercilium, sides of the head and ear-coverts whity brown; sides of neck behind the ear-coverts similar but washed with orange or golden yellow; crown and upper parts glossy black, but the occiput and nape light crimson, and the innermost, median, and greater wing-coverts chiefly or wholly white; wing-feathers black with white spots on both webs; tail-feathers black, the median two pair uniform, the others more or less barred with fulvous white; chin whitish, ends of bristles black; throat light brown unstriped; breast and abdomen yellowish fulvous, with longitudinal black stripes, becoming bars on the flanks; vent and under tail-coverts light crimson; upper mandible slaty black, lower horny grey; feet dingy green; iris reddish brown to deep crimson; orbital skin plumbeous. Gape 1·5, wing 5·0, tail 3·75, tarsus 0·9 inch. The female lacks the crimson on the occiput and nape.

Hab. Nepal and Sikhim in the Himalayas at from about 3,000 to 12,000 feet elevation, through Southern Tibet to Moupin and Western Szechuen.

In general habits it does not differ from *D. major*, but as yet nothing is on record respecting its nidification.

634. PERNY'S PIED WOODPECKER.

DENDROCOPUS PERNYI.

Dendrocopus pernyi (Verr.), Rev. and Mag. de Zool. 1867, p. 271, pl. 16; (David and Oust.), Ois. Chine, p. 48; Hargitt, Cat. B. Br. Mus. xviii. p. 225; (Berezovski and Bianchi), Ptitz. Gan-su, etc. p. 49.

♂ *ad.* (Kan-su). Somewhat resembles *D. darjilensis*, but is smaller, has no yellow on the sides of the neck, these parts being dull white; the under parts are paler, being buffy white, and less conspicuously striped; chin and upper throat white; the black stripes on each side of the throat widen below and merge into a broad deep black band which crosses the breast in the centre of which there is a crimson patch. The bill also is much smaller than that of *D. darjilensis*; bill greyish, the base of the under mandible yellow; legs greenish; iris red. Culmen 0·8, wing 4·22, tail 3·0, tarsus 0·7 inch.

Hab. Szechuen in Western China, Moupin and Eastern Tibet, where it is not rare.

According to Abbé David it is a resident, and its note is similar to that of *D. major*, from which it does not appear to differ in habits.

635. SIND PIED WOODPECKER.

DENDROCOPUS SINDIANUS.

Dendrocopus sindianus, (Horsf. and Moore), Cat. B. Mus. E. I. Co. ii. p. 671 (1856-58); (Henders. and Hume.), Lah. to Yarkand, p. 179, pl. ii; Hargitt, Cat. B. Br. Mus. xviii. p. 227; Blanf. F. Brit. Ind. Birds, iii. p. 36.

♂ (Baluchistan). Resembles *D. syriacus*, but differs in having the entire crown and occiput, and not only the occiput, rich crimson. In the female the crown and occiput are black. Culmen 1·15, wing 4·8, tail 2·9, tarsus 0·8 inch.

Hab. Afghanistan, Sind, Baluchistan, and the Western Punjab as far north as Peshawar, Murree, and Sirsa; west to Bampur in S.E. Persia.

It is said to frequent tamarisk-scrub, which abounds in Sind and the neighbouring countries, and breeds in holes in tamarisk and babul trees in March and April.

636. Syrian Pied Woodpecker.

DENDROCOPUS SYRIACUS.

Dendrocopus syriacus (Hempr. and Ehr.), Symb. Phys. Aves. fol. r. note 5 (1828); (Dresser), v. p. 35, pls. 277, 278; Hargitt, Cat. B. Br. Mus. p. 225; Blanf., E. Persia, ii. p. 130; *D. cruentatus* (Antinori), Naumannia, 1856, p. 411, Taf. 4; *D. feliciæ* (Malh.), Picidæ, i. p. 127, pl. xx. fig. 4, pl. xxviii. figs. 8-11 (1861); *D. khan*, Defilippi, Arch. Zool. ii. p. 400 (1864).

Nacar-el-Hairel, Arab.

♂ *ad.* (Asia Minor). Upper parts glossy black; occiput crimson; forehead pale creamy white; sides of face silky white; a black malar stripe joins another triangular patch on the sides of the neck, and extends in a semicircle to the breast; inner larger wing-coverts and scapulars white; quills black spotted with white on both webs; tail black with two yellowish white spots on each web of the two outer feathers; under parts creamy white, the abdomen and vent pale rose colour; bill bluish, the under mandible yellowish at the base; legs plumbeous; iris reddish. Culmen 1·3, wing 5·1, tail 3·5, tarsus 0·85 inch. The female differs in lacking the crimson occipital crest.

Hab. Asia Minor, Palestine, and Western Persia south to Farsistan.

In habits it resembles *D. major*, but is more often seen in cultivated districts, especially where fruit trees are numerous, and is never seen in large forests. Its note resembles that of *D. major*, but it is less noisy. It hews out its nest-hole in all sorts of trees, but most often fruit trees, and in May deposits 4 to 5 glossy white eggs which measure about 1·2 by 0·75.

637. Barred Woodpecker.

DENDROCOPUS MINOR.

Dendrocopus minor (Linn.), Syst. Nat. i. p. 176 (1766); (Naum.) v. p. 334, Taf. 136, figs. 3, 4; (Hewitson), i. p. 241, pl. lxi. fig. 4; (Gould), B. of E. iii. pl. 231; id. B. of Gt. Brit. iii. pl. lxxii; (Newton), ii. p. 477; (Dresser), v. p. 53, pl. 282; Hargitt, Cat. B. Br. Mus. xviii. p. 252; (Tacz.), F. O. Sib. O. p. 703; (Seebohm), B. of Jap. Emp. p. 155; Saunders, p. 277; Lilford, ii. p. 10, pl. 4; *D. quadrifasciatus* (Radde), Orn. Cauc. p. 315, pl. 19, fig. 5; Hargitt, tom. cit. p. 256.

Pic épeichette, French; *Peto gallego,* Portug.; *Pipo,* Span.; *Picchio piccolo,* Ital.; *Kleiner Buntspecht,* German; *Mindste Flagspet,* Dan.; *Liden Flagspet,* Norw.; *Lilla Hackspett,* Swed.; *Tsitsach-tschaitne,* Lapp.; *Pieni Tikka,* Finn.; *Maloui-Dyatell,* Russ.

♂ *ad.* (Sweden). Upper parts generally black, barred with white; forehead and lores buffy white; crown pale crimson; lower back black barred with black; sides of the head buffy white; crown bordered by a narrow black stripe; malar stripe black continued to the sides of the neck where it joins a black triangular patch; outer tail-feathers white, barred with black on the basal portion; under parts dull white tinged with brown on the breast and flanks, the sides of the upper breast striped with black; bill and legs dusky plumbeous; iris reddish. Culmen 0·65, wing 3·8, tail 2·45, tarsus 0·55 inch. The female has the crown whitish, not crimson. The young are duller in colour; the young male has the crown dull crimson, but only the forepart is crimson in the young female.

Hab. Europe generally, from Lapland to the Mediterranean; Azores; Algeria; Asia through Southern Siberia to Mongolia, Manchuria, and Yezo in Japan.

Throughout its range it is a resident or only a partial migrant, and affects deciduous trees, especially fruit trees, in preference to conifers. Its flight is a succession of bow-shaped dips and whirring. It is very active and restless, and its note, which is softer and lower than that of its congeners, is *kiik, kiik, kiik, kiik,* uttered several times in succession. It feeds on insects of various kinds and their larvæ and eggs. Its nest is usually bored in a non-evergreen tree at from 6 to 20 feet above the ground, and its 4 to 6 glossy white eggs are deposited in May or June, and in size average 0·74 by 0·56.

638. SUBSP. DENDROCOPUS PIPRA.

Dendrocopus pipra (Pall.), Zoogr. Ross. As. i. p. 414 (1811); (Dresser), v. p. 65, pl. 283; Hargitt. Cat. B. Br. Mus. xviii. p. 255; *D. kamtschatkensis* (Bp.), Consp. Volucr. Zygod. p. 8, No. 49 (1854); Tacz. F. O. Sib. O. p. 706; *D. immaculatus,* Stenj. Proc. Biol. Soc. Wash. ii. p. 98 (1884).

ad. (N. E. Siberia). Differs from *D. minor* in having the white portions of the plumage more extensive; the back is not regularly barred but has merely a few irregular indications of bars, the outer tail-feathers are much more faintly barred, and the under parts are pure white with faint indications of stripes on the sides of the breast. Culmen 0·72, wing 3·8, tail 2·7, tarsus 0·68 inch.

Hab. N. Ural, throughout Northern Siberia, north of about 55° N. Lat. to Kamchatka and Behring Island.

In habits, note, and nidification this species does not differ from *D. minor*.

639. SUBSP. DENDROCOPUS DANFORDI.

Dendrocopus danfordi (Hargitt), Ibis, 1883, p. 172; id. Cat. B. Br. Mus. xviii. p. 256; Dresser, ix. p. 259, pl. 689, fig. 2.

ad. (Asia Minor). Resembles *D. minor*, except that it has the branch from the black malar stripe passing quite round the posterior part of the ear-coverts, and joined to the occiput, and the under parts are darker and rather more distinctly barred.

Hab. Asia Minor and the Northern Caucasus.

I have no information respecting the habits of this species, but it doubtless does not differ appreciably from *D. minor* therein. Its eggs closely resemble those of *D. minor*.

640. BROWN-FRONTED WOODPECKER.

DENDROCOPUS AURICEPS.

Dendrocopus auriceps (Vigors), P.Z.S. 1831, p. 44; Blanf. F. Brit. Ind. Birds, iii. p. 40; *D. brunnifrons* (Vigors), P.Z.S. 1831, p. 176; Gould, Cent. B. Himal. pl. lii. (1832); Hargitt, Cat. B. Br. Mus. xviii. p. 264.

♂ *ad.* (Himalayas). Upper parts barred black and white; a broad band across the upper back, and upper tail-coverts black; crown brown tinged with olivaceous, the hinder feathers with golden tips; occiput scarlet; wings black spotted with white, as are the outer tail-feathers, the middle ones being uniform black; sides of head and neck, and chin white, finely striped with black; ear-coverts pale brown; a brown malar band passing into a black stripe on the side of the throat and fore-neck; under parts fulvous white striped with black, middle of the abdomen tinged with yellow; lower abdomen and under tail-coverts pale crimson; bill bluish horn, the base of the under mandible plumbeous; legs pale glaucous green; iris crimson. Culmen 1·0, wing 4·6, tail 3·2, tarsus 0·8 inch. The female is slightly smaller and lacks the red occiput, which is yellower than the crown.

Hab. Northern Afghanistan, Kashmir, and the Western Himalayas east to Nepal, at altitudes of from 2,000 to 9,000 feet.

In general habits it differs little from its congeners, and is said to frequent gardens, and to utter a soft, rolling whistle. It breeds in April and early in May, boring its nest-hole chiefly in oak- or fir-trees, and lays 4 or 5 pure white, glossy eggs, which measure about 0·92 by 0·68.

641. WHITE-BACKED WOODPECKER.

DENDROCOPUS LEUCONOTUS.

Dendrocopus leuconotus (Bechst.), Naturg. Deutschl. ii. p. 1034, Taf. 25, figs. 1, 2 (1805) ; (Naum.) v. p. 313, Taf. 135, figs. 1, 2 ; Gould, B. of E. iii. p. 228 ; (Dresser), v. p. 39, pl. 279 ; Hargitt, Cat. B. Br. Mus. xviii. p. 268 ; (Tacz.), F. O. Sib. O. p. 701 ; *D. cirris*, Pall. Zoogr. Ross. As. i. p. 410 (1811) ; *D. subcirris* (Stejn), Proc. U.S. Nat. Mus. 1886 p. 113.

Weissspecht, Weissrückiger Specht, Germ. ; *Hvidrygget Flagspett,* Dan. and Norweg. ; *Hvitryggiga Hackspett,* Swed ; *Valkoselkä Tikka,* Finn. ; *Ō-akagera,* Jap.

♂ *ad.* (Sweden). Forehead buffy white ; crown to the nape scarlet ; sides of the face and neck forming an interrupted collar, white ; cheeks and a line to the breast, upper back, and upper tail-coverts black ; lower back white, with a few faint black markings ; wings black, spotted with white, as are the outer tail feathers, the latter also barred ; middle tail-feathers black ; under parts white, the throat and chest tinged with yellowish, the abdomen and under tail-coverts tinged with vermilion, the flanks striped with black ; bill horn-blue ; legs lead grey ; iris nut-brown. Culmen 1·5, wing 5·7, tail 3·7, tarsus 1·0 inch. The female differs in having the crown black.

Hab. Northern and central Europe to N. Italy, Turkey and Southern Russia ; Asia, through Siberia to Kamchatka, Mongolia, Manchuria, Corea, Yesso, and the northern part of the main Island of Japan. Not found in Great Britain.

In its general habits it is much less wild than its congeners ; it frequents deciduous woods and groves, and is not found in conifer woods. Its note is softer and it is quieter than the other Woodpeckers. In winter it is to be found in gardens and even in villages. It feeds almost if not quite exclusively on insects of various kinds, but may in the autumn occasionally eat berries. It breeds in April boring its nest-hole usually in a very rotten tree, an elm, ash, or birch, and but rarely an oak, and deposits 3 or 4 glossy white eggs, like those of *D. major*, which measure about 1·7 by 0·76.

Examples from Eastern Europe and N. Siberia have as a rule the upper parts whiter, but I cannot consider them as even subspecifically separable.

642. GREEK PIED WOODPECKER.

DENDROCOPUS LILFORDI.

Dendrocopus lilfordi (Sharpe and Dresser), Ann. and Mag. Nat. Hist. (4), viii. p. 436 (1871); (Dresser) v. p. 45, pl. 280; Hargitt, Cat. B. Br. Mus. xviii. p. 272.

♂ *ad.* (Greece). Differs from *D. leuconotus* in having the lower back broadly barred with black, and the vermilion colouring on the under parts richer and deeper. Culmen 1·6, wing 5·2, tail 3·8, tarsus 1·0 inch. The female differs in having the crown black, and not rich crimson as in the male.

Hab. Greece, Dalmatia, Bosnia, Turkey, and the Ionian Islands, and has occurred as far west as Ancona and Genoa; Asia Minor in the Taurus range.

But little is known respecting the habits of this species, but as far as I can gather they do not differ from those of *D. leuconotus.* It breeds in Greece, the Herzegovina and Bosnia; its breeding habits and eggs being similar to those of *D. leuconotus.*

643. JAPANESE WHITE-BACKED WOODPECKER.

DENDROCOPUS NAMIYEI.

Dendrocopus namiyei (Stejneger), Proc. U.S. Nat. Mus. 1886 p. 116, pl. ii.; Hargitt, Cat. B. Br. Mus. xviii. p. 273.

♂ *ad.* Similar to *D. leuconotus*, but much darker; lower back with a few white cross bars only; white spots on wings fewer and smaller, and no white band formed by the middle coverts, only a few of the inner ones having a white spot; great wing-coverts with only one sub-apical white spot on the outer web; ear-patch and lateral neck-patch completely separated by a black streak. Exposed culmen 1·34, wing 5·74, tail 3·46, ext. ant. toe without claw, 0·71 inch.

Hab. South-western portion of Hondo Island, Japan.

There appears to be nothing on record respecting the habits and nidification of this species. I have never seen a specimen and copy the description from Dr. Stejneger. It appears to be nearest allied to *Dendrocopus insularis* (Gould) from the island of Formosa.

644. MIDDLE SPOTTED WOODPECKER.

DENDROCOPUS MEDIUS.

Dendrocopus medius (Linn.), Syst. Nat. i. p. 176 (1766); (Naum.), v. p. 320, Taf. 136, figs. 1, 2; (Gould), B. of E. iii. pl. 230; Hargitt Cat. B. Br. Mus. xviii. p. 286; (Dresser), v. p. 47, pl. 281.

Picmar, French; *Picapau malhado*, Portug; *Picapuerco Picorelincho*, Span.; *Picchio-mezzano*, Ital.; *Mittelspecht*, Germ.; *Middelste-bonte-Specht*, Dutch; *Mellemspette*, Dan.; *Mellanspet*, Swed.

♂ *ad.* (S. Europe). Forehead buffy white; crown rich vermilion; sides of the head white, tinged with grey on the ear-coverts, and brown on the cheeks; on the sides of the neck a triangular patch of black from the hind-cheeks to the sides of the breast, passing also behind the ear-coverts nearly to the crown; nape and back black, tinged with grey on the rump; scapulars and the innermost wing-coverts white; quills blackish, externally spotted with white on the secondaries, forming four bars; tail black, the outer feathers barred and spotted with white; throat white; chest yellowish white, having on each side a crescentic line of black, nearly joined in the middle; abdomen rose colour; flanks striped with black; bill plumbeous paler at the base; legs plumbeous; iris cinnabar red. Culmen 1·0, wing 4·8, tail 3·3, tarsus 0·8 inch. The female differs little from the male being duller in colour.

Hab. Western, Central and Southern Europe from Southern Sweden to the Mediterranean, east to Southern Russia and the Caucasus; not occurring in Great Britain, Norway, or Finland.

Although it resembles *D. major* in its general habits, it differs in affecting deciduous woods and groves, but seldom being seen in conifer woods, and is often seen in meadows where old oaks are scattered about, or in gardens, or orchards. Its flight is swifter and lighter than that of *D. major*, but its note is very similar. It feeds on insects and their larvæ but also eats seeds and nuts. It bores its nest-hole in a non-evergreen tree, usually at a considerable height, and in April deposits five glossy white eggs which measure about 0·93 by 0·72.

645. SUBSP. DENDROCOPUS SANCTI-JOHANNIS.

Dendrocopus sancti-johannis (Blanf.), Ibis, 1873, p. 226; (id.), E. Pers. ii. p. 138, pl. ix.; (Hargitt), Cat. B. Br. Mus. xviii. p. 288; (Radde) Orn. Cauc. p. 313, pl. xix. fig. 3; (Dresser), ix. p. 257.

♂ *ad.* (Asia Minor). Differs from *D. medius* in having the under parts more richly tinged with yellow and red, and much more boldly striped with black ; crown brilliant crimson ; the two lateral tail-feathers have the white bars much narrower, the black bars therefore much broader, and more conspicuous. Culmen 1·02, wing 4·75, tail 2·85, tarsus 0·78 inch. The female is only a trifle less brightly coloured.

Hab. South-east Europe, Asia Minor, the Caucasus, and Persia.

Probably this bird does not differ from *D. medius* in its nesting habits, and its eggs are similar to those of that species.

IYNGIPICUS, Bonap., 1854.

646. SWINHOE'S PIGMY WOODPECKER.

IYNGIPICUS SCINTILLICEPS.

Iyngipicus scintilliceps (Swinhoe), Ibis, 1863, p. 96 ; (David and Oust.), Ois. Chine, p. 50 ; Gould, B. of Asia, vi. pl. xxi. ; Hargitt, Cat. B. Br. Mus. xviii. p. 313 ; *I. kaleensis* (Swinhoe), Ibis, 1863, p. 390 ; (David and Oust.), Ois. Chine, p. 50 ; Hargitt, tom. cit. p. 315 ; Berezovski and Bianchi, Ptitz. Gan-su, &c. p. 48.

♂ *ad.* (China). Crown dark ashy-grey ; occiput, nape, forepart of the back, and middle tail-feathers deep black ; middle and lower back white, barred with black ; wings black, spotted with white ; lateral tail-feathers brownish buff, with indistinct blackish brown bars on the terminal portion ; on each side of the occiput a minute scarlet stripe ; malar stripe and ear-coverts dusky brownish buff ; chin, sides of the face, and neck dull white ; under parts buffy white, striped with black ; bill horny plumbeous ; legs plumbeous grey ; iris red or reddish brown. Culmen 0·68, wing 4·0, tail 2·2, tarsus 0·64 inch. The female resembles the male, but lacks the red stripe on the sides of the occiput.

Hab. China north to Pekin, south to the islands of Formosa and Hainan ; south-western Kan-su.

Throughout its range this species is said to be resident and found everywhere where there are trees, even in the towns. In habits it does not differ from its allies. The bird from Formosa, Hainan, and Eastern China (*I. kaleensis*) has been treated by Mr. Hargitt as subspecifically separable, but in this I cannot agree with him.

647. SUBSP. IYNGIPICUS DOERRIESI.

Iyngipicus doerriesi, Hargitt, Ibis, 1881 p. 398 ; id. Cat. B. Br. Mus. xviii. p. 314 ; Gould, B. of Asia, vi. pl. xxii ; Tacz. F. O. Sib. O. p. 719 ; *I. mitchellii* (Radde), Reis. Süd. Ost. Sib. p. 140.

♂ *ad.* (Askold). Differs from *I. scintilliceps* in being larger, the back whiter, either unbarred or with but faint traces of bars, and the under parts are paler and more finely striped. Culmen 0·7, wing 4·3, tail 2·6, tarsus 0·65 inch.

Hab. The Ussuri country, the island of Askold, south-eastern Manchuria, and Corea.

Is said to be a resident throughout its range, but nothing appears to be on record respecting its habits or nidification.

648. JAPANESE PIGMY WOODPECKER.

IYNGIPICUS KIZUKI.

Iyngipicus kizuki (Temm.), Pl. Col. iv. livr. 99 (1836) ; (id. and Schlegel), Faun. Jap. p. 74, Taf. 37 ; Hargitt, Cat. B. Br. Mus. xviii. p. 318 ; Seebohm, B. Jap. Emp. p. 156 ; *I. seebohmi* Hargitt, Ibis, 1884, p. 100 ; id. tom. cit. p. 319.

♂ *ad.* (Japan). Crown warm ashy brown ; sides of the head, nape, and forepart of the back similar but browner ; upper parts, wings, and middle tail-feathers black, the wings spotted, and the back and scapulars barred with white ; outer tail-feathers buff, barred with black ; malar stripe blackish brown ; lores, a patch behind the eye, and a stripe bordering the malar stripe, chin, throat, and an interrupted collar pure white ; under parts fulvous white, striped with brown ; a small red stripe on each side of the occiput. Culmen 0·65, wing 3·3, tail 2·2, tarsus 0·6 inch. The female is similar, but lacks the occipital red stripe.

Hab. Japan, Corea, and the Ussuri country in south-eastern Siberia.

It is said to be a resident, and often consorts with Tits; its cry is described as *geed, geed.* Specimens from the Ussuri Corea, and Northern Japan (*I. seebohmi*) are as a rule somewhat greyer on the crown, and have the under parts whiter, but in a series I find these differences by no means constant, and cannot therefore allow even subspecific rank to this form.

PICOIDES, Lacép., 1801.

649. THREE-TOED WOODPECKER.

PICOIDES TRIDACTYLUS.

Picoides tridactylus (Linn.), Syst. Nat. i. p. 177 (1766) ; (Naum.), v. p. 346, Taf. 137, figs. 1, 2 ; (Gould), B. of E. iii. pl. 232 ; Dresser, v. p. 69, pl. 284 ; Hargitt, Cat. B. Br. Mus. xviii. p. 275 ; Tacz. F. O. Sib. O. p. 722 ; *P. crissoleucus* (Bp.), Consp. Voluc. Zygod. p. 8. (1854) ; Hargitt, tom. cit. p. 277 ; *P. albidior*, Stejn. Bull. U.S. Nat. Mus. 1885, p. 231.

Dreizehen Specht, Germ. ; *Tretaaet Flagspette*, Dan. ; *Tretaaet Spette*, Norweg. ; *Tretåiga Hackspetten*, Swed. ; *Caitne*, Lapp. ; *Kolmevarpainen Tikka*, Finn. ; *Trechperstnyi-Dyatell*, Russ.

♂ *ad.* (Sweden). Forehead and eyebrow blue-black, spotted with white ; crown yellow, obsoletely barred with white ; middle of the back white ; sides of the face and nape, malar stripe, and a line surrounding the eye and ear-coverts, upper parts generally, wings, and tail blue-black ; primaries, innermost secondaries, and outer three tail-feathers spotted, barred, and tipped with white ; a line from the lores down the cheeks, and another from the eye above the ear-coverts and joining behind the nape, also white ; under parts white, the sides of the upper breast streaked, the flanks and under tail-coverts barred with black ; bill dark lead-brown ; legs plumbeous ; iris rich dark reddish brown. Culmen 1·2, wing 4·85, tail 3·5, tarsus 0·85 inch ; three toes only. The female lacks the yellow on the crown, which is black.

Hab. Northern and Central Europe, only in the mountains in the South ; common in Lapland but not found in Western Europe or Great Britain, and of very rare occurrence in Denmark ; Asia, east to Kamchatka and south to Manchuria.

In its general habits it resembles its allies, is quick and active in its movements, and frequents both deciduous and conifer woods, especially where fire has devastated the forest. It feeds on insects and their larvæ, and but seldom, when pressed, eats berries. It bores its nest-hole in a conifer or non-evergreen tree, and early in June deposits 4 to 6 glossy white eggs which in size average 0·95 by 0·72.

Specimens from the high north, and from North-east Siberia have more white in the plumage than those from the mountains of Central Europe.

GECINUS, Boie, 1831.

650. Green Woodpecker.

GECINUS VIRIDIS.

Gecinus viridis (Linn.), Syst. Nat. i. p. 175 (1766) ; (Naum.), v. p. 270, Taf. 132, figs. 1, 2 ; (Hewitson), i. pl. lxi. fig. ii. ; (Gould), B. of E. iii. pl. 226 ; id. B. of Gt. Brit. iii. pls. 74, 75 ; Newton, ii. p. 457 ; Dresser, v. p. 77, pl. 285 ; Hargitt, Cat. B. Br. Mus. xviii. p. 36 ; Saunders, p. 273 ; Lilford, ii. p. 2, pl. 1 ; *G. karelini* (Brandt) Bull. Sc. Acad. Imp. St. Petersbg. ix. p. 12 (1842) ; *G. saundersi* Tacz. J. f. O. 1878, p. 249.

Pic vert, French ; *Picchio verde*, Ital. ; *Grünspecht*, Germ. ; *Groene Specht*, Dutch ; *Grœnspet*, Dan. and Norw. ; *Grön Hackspett*, *Gröngöling*, Swed. ; *Zelenöi-Dyatell*, Russ.

♂ *ad.* (England). Above green ; lower back, rump, and upper tail-coverts brilliant yellow, the latter tinged with green ; crown and nape brilliant scarlet ; lores, eyebrows, and round the eye black ; malar stripe scarlet ; primaries brown, barred and blotched with whitish ; secondaries golden green ; tail brownish black, barred with greyish brown, the outer feathers green ; ear-coverts, sides of neck, and under parts from chin to vent greyish green, paler on the throat and sides ; the abdomen and under tail-coverts with indistinct darker bars ; bill dark lead-grey, paler at the base, blackish at the tip ; legs dark grey ; iris bluish white. Culmen 1·7, wing 6·3, tail 4·2, tarsus 1·1 inch. The female differs in lacking the scarlet malar stripe, and the young are duller and paler, and have the crown-feathers grey, tipped with scarlet.

Hab. Europe generally except in the south-west ; Norway up to the Trondhjemfjord ; Sweden to about 60° N. lat. ; not found in Finland ; England and Wales, rare in Scotland, and very rare in Ireland ; Asia Minor, the Caucasus, and east to Persia.

Frequents woods, groves, and orchards, where conifers and deciduous trees are intermixed, but does not affect the conifer woods or the true forest. It is active in its movements and most industrious in examining the bark of trees for its food, which consists of insects of various kinds and their larvæ, especially ants and their pupæ ; it will also eat acorns and nuts. Its flight is soft and undulating but not prolonged. Its note is a loud laugh *plui, plui, plui,* and a softer *yuck, yuck,* and in the spring it is somewhat noisy. It bores its nest-hole in a tree, seldom in a conifer, and clearing out most of the chips, in April or May lays at the bottom of the hole 6 or 7 glossy white eggs which average 1·20 by 0·85 in size.

651. SHARPE'S GREEN WOODPECKER.

GECINUS SHARPII.

Gecinus sharpii, Saunders, P.Z.S. 1872, p. 153 ; Dresser, v. p. 89, pl. 286 ; Hargitt, Cat. B. Br. Mus. xviii. p. 40.

Peto-verde, Peito amarillo, Portug. ; *Pico verde, Peto real*, Span.

♂ *ad.* Differs from *G. viridis* in having the lores, eyebrows, and face slate-grey, with only a black spot on the loral region, the malar stripe scarlet, and not bordered with black. Culmen 1·5, wing 6·3, tail 4·2, tarsus 1·1 inch. The female has the malar stripe black, not scarlet, and the young bird differs from that of *G. viridis* in having the sides of the face grey.

Hab. Portugal, and Spain south of the Guadarrama range.

In habits, note, and nidification, this species does not differ from *G. viridis.*

652. ALGERIAN GREEN WOODPECKER.

GECINUS VAILLANTI.

Gecinus vaillanti (Malh.), Cat. rais. des Ois. d'Alg. Mém. de la Soc. d'Hist. Nat. de Metz, p. 5 (1846) ; Dresser, v. p. 93, pl. 287 ; Hargitt, Cat. B. Br. Mus. xviii. p. 41 ; *G. algirus* Levaill. jun., Expl. Sc. d'Algér. Ois. pl. 8 (1848–49).

Nakâb-el-tebak, Moorish ; *N'ðkaib, Nagab-ed-Djour*, Arabic.

♂ *ad.* (Algeria). Differs from *G. viridis* in having the face grey and the malar stripe black, and from *G. sharpii* in having the malar stripe black, an indication of a whitish stripe above the malar region, and a white spot at the base of the upper mandible ; bill dark lead-grey, blackish at the tip and yellowish on the basal third below ; legs dark grey ; iris white. Culmen 1·6, wing 6·1, tail 4·05, tarsus 1·1 inch. The female has the crown slate-grey, the feathers tipped with blackish grey, and the nape only crimson.

In habits, note, and nidification, it does not differ from *G. viridis.*

653. JAPANESE GREEN WOODPECKER.

GECINUS AWOKERA.

Gecinus awokera (Temm.), Pl. Col. iv. No. 25, pl. 585 (1826) ; (id. and Schlegel), F. Jap. p. 72, pl. xxxvi. ; Hargitt, Cat. B. Br. Mus. xviii., p. 41.

Awokera, Jap.

♂ *ad.* (Japan). Forehead, lores, and space below the eye dusky black; crown to nape crimson, the feathers dusky grey, spotted with black at the base; hind-neck dusky black; upper parts olive-green, the feathers on the rump and upper tail-coverts tipped with yellow; quills blackish, the outer webs of the primaries spotted with white; tail dull brownish, faintly barred with greyish, the middle feathers margined with golden olive at the base; face, sides and front of neck slate-grey; malar stripe crimson and black; chin and throat white; under parts yellowish white, tinged with grey on the upper breast, marked with crescentic and V-shaped black marks; under tail-coverts barred with black; bill dark greenish, at the base lemon yellow; legs dull olive green; iris venetian red. Culmen 1·6, wing 5·6, tail 3·95, tarsus 1·15 inch. The female has the malar stripe as in the male, but the crown is smoky grey, and only the occiput and nape are crimson.

Hab. Japan, on the main island and that of Kiushiu.

In habits this species does not differ from its allies. Its nest-hole is bored in a tree usually at from 4 to 10 feet above the ground, and from late in April to the middle of July it deposits 4 to 7 eggs resembling those of *G. viridis.*

654. Yellow-billed Green Woodpecker.

GECINUS FLAVIROSTRIS.

"*Gecinus flavirostris* Zarudny," Menzbier, Bull. Soc. Imp. Nat. Mosc. pt. i. p. 440 (1886); Dresser, ix. p. 261, pl. 690; *G. gorii*, Hargitt, Cat. B. Br. Mus. xviii. p. 45; *G. zarudnoi*, Menzbier, Ibis, 1887, p. 301.

♂ *ad.* (Afghanistan). Upper parts pale green, with indistinct darker squamations; wings and tail barred with blackish; rump and tail yellower than the back; crown to the nape crimson, narrowly bordered with blackish; malar stripe black and white; throat and chest uniform dull greenish yellow; rest of the under parts yellowish white, with squamate blackish-olive markings; bill wax-yellow, slightly darker at the base on the sides; legs plumbeous grey with a bluish tinge; iris yellowish white. Culmen 1·8, wing 6·5, tail 4·7, tarsus 1·2 inch. The female has the crown and nape deep black, not crimson, and many of the feathers are margined with white.

Hab. Transcaspia, east into Afghanistan.

This species is nearest allied to *G. squamatus* (Vigors), of which it is a desert form. In habits and nidification it resembles its congeners, and deposits early in April 4 to 5 glossy white eggs which measure about 1·18 by 1·08.

655. GREY-HEADED GREEN WOODPECKER.

GECINUS CANUS.

Gecinus canus (Gmel.), Syst. Nat. i. p. 434 (1788); (Naum). v. p. 286, Taf. 133, figs. 1, 2; (Gould), B. of E. iii. pl. 227; Dresser, v. p. 95, pl. 288; David and Oust. Ois. Chine, p. 51; Hargitt, Cat. B. Br. Mus. xviii. p. 52; Seebohm, B. Jap. Emp. p. 148; Tacz. F. O. Sib. O. p. 697.

Pic cendré, French; *Picchio cenerino*, Ital.; *Grauspecht*, German; *Kleine-groene-Specht*, Dutch; *Graaspette*, Dan. and Norweg.; *Gråspett*, Swed.; *Haamapainen-Tikka*, Finn.; *Sadozolovöi-Dyatell*, Russ.; *Yama-gera*, Jap.

♂ *ad.* (Sweden). Head and neck grey; nasal plumes tipped with black; fore-crown bright crimson, the hind-crown streaked with blackish; lores and malar stripe blackish; upper parts green, the lower back, rump, and upper tail-coverts golden yellow; quills and tail brownish, the former barred with dull white, the middle rectrices indistinctly barred with lighter ashy brown; throat grey; the rest of the under parts greenish; bill bluish, grey at the base below; legs greenish or bluish grey; iris varying from pinkish white to brownish red. Culmen 1·4, wing 5·7, tail 4·3, tarsus 1·0 inch. The female lacks the crimson on the crown, and the malar stripe is rather indistinct.

Hab. Europe generally, from the Trondhjemfjord to the south of Europe, where it becomes scarcer; has occurred in Lapland; not found in Great Britain; of rare occurrence on the Iberian peninsula. In the south-east it is found in the Caucasus; in Asia it ranges across Siberia to Yezo in Japan, and south to Corea, North China, and Manchuria.

In habits it resembles its ally *G. viridis*, and like that bird affects non-evergreen woods in preference to conifers, but it is scarcely so shy. As a rule it is a resident or only a partial migrant throughout its range. Its note is a clear call, like *klii, klih, klih, klyh, klyh, klüh, klüh, klüh, klüh*, gradually deepening in tone, and is not so loud or harsh as the cry of *G. viridis*. It feeds on insects of various kinds, caterpillars, larvæ, and especially on ants and their pupæ, and when insects are scarce will eat berries. It bores its nest-hole usually in a soft-wood tree at from 10 to 20 feet above the ground, and in May or early in June deposits 6 to 8 glossy white eggs, rather blunter, as a rule, at the larger end than those of *G. viridis*, and measuring about 1·21 by 0·85.

Dr. Stejneger separated the Japanese bird subspecifically as *G. canus jessoensis* (Proc. U.S. Nat. Mus., 1886, p. 106), and the

Siberian bird (*tom. cit.* p. 107, note) as *G. canus perpallidus*, but I cannot see that these are even subspecifically separable from the European bird.

IYNX, Linn., 1746.

656. WRYNECK.

IYNX TORQUILLA.

Iynx torquilla (Linn.), Syst. Nat. i. p. 172 (1766) ; (Naum.), 5, p. 356, Taf. 138, figs. 1, 2 ; Hewitson, i. p. 242, pl. lxii. fig. 1 ; (Gould), B. of E. iii. pl. 233 ; (id.), B. of Gt. Brit. iii. pl. 76 ; Newton, ii. p. 487 ; Dresser, v. p. 103, pl. 289 ; David and Oust. Ois. Chine, p. 55 ; Hargitt, Cat. B. Br. Mus. xviii. p. 560 ; (Tacz.) F. O. Sib. O. p. 727 ; Blanf. F. Brit. Ind. Birds, iii. p. 78 ; Saunders, p. 271 ; Lilford, ii. p. 12, pl. 5 ; Seebohm, B. Jap. Emp. p. 157.

Torcol ordinaire, French ; *Papa-formigas*, Portug. ; *Torcecuello*, Span. ; *Torcecollo*, Ital. ; *Wendehals*, German ; *Draaihals*, Dutch ; *Vendehals*, Dan. and Norweg. ; *Göktyta*, Swed. ; *Käen-piika*, Finn. ; *Vertigolovka*, Russ. ; *Gardan eyengtha*, Hind. ; *Meda nulingadu*, Tam.

♂ *ad.* (England). Upper parts greyish, washed with brown, barred and finely vermiculated and marked with brown and black, the nape, middle of the back, scapulars, and inner secondaries broadly striped with blackish ; quills externally barred with warm buff ; tail minutely vermiculated and pencilled with blackish, and having five to six distinct blackish brown bars ; under parts buffy white, the middle of the abdomen nearly clear white ; throat and upper breast marked with blackish brown bars, which towards the abdomen become arrow-headed in shape ; flanks and tail-coverts barred with blackish ; a blackish brown stripe passes through the eye to the nape, and above this is a buffy white line ; bill dull brown ; legs yellowish brown ; iris hazel. Culmen 0·58, wing 3·4, tail 2·7, tarsus 0·75 inch. The female resembles the male, but is rather duller in colour, and the young bird has the under parts more strongly marked with blackish brown.

Hab. Europe generally up to about 63° N. lat., above which it is rare ; not found in Lapland ; migrating to Africa, south to Kordofan and Senegal ; Asia, north to Kamchatka, east to Japan ; in winter ranging south to the plains of Burma and India.

Though this bird has the feet of a Woodpecker, its tail is not stiff like those birds', and it but seldom climbs about the trees like them. It has a habit of elongating and twisting its neck in a curious way, and when disturbed in its nest-hole utters a loud hissing sound like the note of a snake. Its usual note is a loud *qui, qui, qui* uttered quickly, many times in succession, but except during the breeding season it is a silent bird. Its flight, when continued any distance in the open, consists of a succession of bow-shaped lines. It feeds on insects of various kinds, especially on ants, darting and withdrawing its long tongue, when collecting them, with almost lightning velocity. It breeds in the hole of a tree, not making one for itself but selecting any suitable one, and in May deposits on the bare wood or on the chips at the bottom of the hole 7 to 9 and even 12 glossy white eggs, which measure about 0·84 by 0·67.

ALCEDO, Linn., 1766.

657. THE KINGFISHER.

ALCEDO ISPIDA.

Alcedo ispida, Linn. Syst. Nat. i. p. 179 (1766); Naum. v. Taf. 84, figs. 1, 2; Hewitson, i. p. 255 pl. liv. fig. 1; Gould, B. of E. ii. pl. 61; id. B. of Gt. Brit. ii. pl. 10; Newton, ii. p. 443; Dresser, v. p. 113, pl. 290; Sharpe, Cat. B. Br. Mus. xvii. p. 141; Blanf. F. Brit. Ind. Birds, iii. p. 122; Seebohm, B. Jap. Emp. p. 175; Saunders, p. 279; Lilford, ii. p. 14, pl. 6; *A. bengalensis*, Gmel. Syst. Nat. i. p. 450 (1788); David and Oust. Ois. Chine, p. 74; Tacz. F. O. Sib. O. p. 194.

Martin-pêcheur, French; *Guarda-rios*, Portug; *Martin-pescador*, Span.; *Piombina*, Ital.; *Gemeiner Eisvogel*, German; *Ijsvogel*, Dutch; *Isfugl*, Norweg. and Dan.; *Kungsfiskare*, Swed.; *Zemorodok*, Russ.; *Chotakilkila*, Hindu.; *Khandu*, Mahratta; *Dane-nyin*, Burm.; *Kawasemi*, Jap.; *Kandil-el-behar*, Moorish; *Tur-el-achdar*, Arab.

♂ *ad.* (England). Crown crested, dark green, barred with rich blue; upper back and scapulars green, but the lower back, rump, and upper tail-coverts rich cobalt blue; tail deep, almost indigo blue; greater wing-coverts tipped with rich cobalt blue; space before the eye and earcoverts light chestnut; from the base of the mandible to the sides of the breast a dark green line barred with blue; chin, throat, and a patch on each side of the neck white tinged with fulvous; rest of the under parts rich chestnut; bill black, but orange at the base below; legs deep reddish; iris brown. Culmen 1·7, wing 2·95, tail 1·5, tarsus 0·3 inch. The female differs only in being rather greener, and the young bird is darker and duller, has the bill shorter and all black, the legs blackish grey tinged with red.

Hab. Europe generally, north to Gefle in Sweden, but not found in Finland; North Africa, Madeira, and the Canaries; Asia north to Lake Baikal, east to Corea and Japan, south to N. China; Burma, Sind, Baluchistan, and Persia.

Frequents rivers, brooks, and ponds where the banks are wooded, and at some seasons the sea-coast. It affects shady places, perching on a branch, stump, or stone, close to or overhanging the water where it can watch for its prey, and when disturbed it darts out and skims along the stream at lightning speed, uttering its shrill cry, *tcet, tcet, tcet.* It feeds on small fish, which it captures by dropping into the water like a stone, water-insects and crustaceans. It excavates its nest-hole in a bank, or sometimes uses a rat's hole, and at the end enlarges it into an oval chamber where, on the bare soil or on the fishbones and castings, it lays in April, May, or June, its 5 to 7 glossy white, roundish-oval eggs, which measure about 0·85 by 0·75.

CERYLE, Boie, 1828.

658. PIED KINGFISHER.

CERYLE RUDIS.

Ceryle rudis (Linn.), Syst. Nat. i. p. 181 (1766); Gould, B. of E. ii. p. 62; Dresser, v. p. 125, pl. 291; Sharpe, Monogr. Alced. p. 61, pl. 19; id. Cat. B. Br. Mus. xvii. p. 109.

Saiad-el-semahk, Arab.

♂ *ad.* (Asia Minor). Upper parts black, marked and varied with white; crown crested; a white superciliary line to the hind-neck; tail white spotted with black on the basal two-thirds, then black tipped with white; under parts white, the breast crossed by one broad and one narrow band; bill and legs black; iris brown. Culmen 2·3, wing 5·55, tail 3·6, tarsus 0·45 inch. The female differs in having only one pectoral band, and the young bird resembles the female, but has the upper parts blacker, the feathers on the throat with faint blackish tips, and the pectoral band is greyish margined with black.

Hab. Rare in Greece; the Cyclades, Asia Minor, and Palestine, east to the Persian Gulf; Africa south to the Cape. In India and east to China it is replaced by a nearly allied species, *Ceryle varia,* Strickl., which has the base of the tail white, unspotted.

It is a heavier bird than *A. ispida,* its flight is not very swift, but direct and steadied by regular beats of the wings. It frequents both inland waters and the sea-coast, and is gregarious at all seasons. It breeds from April to late in May, burrowing its nest-hole in a bank close to the edge of the water, and the nest-cavity is a hole scooped in the side of the nest tunnel. Its eggs, 4 to 6 in number, are not so polished as those of *A. ispida,* pure white and larger, measuring about 1·15 by 1.

659. Himalayan Pied Kingfisher.

CERYLE LUGUBRIS.

Ceryle lugubris (Temm.), Pl. Col. 548 (1834); Sharpe, Monogr. Alced. p. 49; id. Cat. B. Br. Mus. xvii. p. 115; Blanf. F. Brit. Ind. Birds, iii. p. 121; Bianchi and Berez. Ptitz. Gan-su, p. 46; *C. guttata* (Vigors), P.Z.S. 1830, p. 22 (nec. Bodd); Gould, Cent. Himal. B. pl. 5; Sharpe, Monogr. Alced. p. 57, pl. 18; Seebohm, B. Jap. Emp. p. 174.

Mashi-Bágh, Hindu.; *Jel. butara,* Chamba: *Ung-ka-zhu,* Lepch.; *Kawa-chō,* Jap.

♂ *ad.* (Japan). Head to below the eyes with crest black, spotted and marked with white; a broad collar; cheeks and under parts white; upper parts, wings, and tail black, or greyish black, barred and spotted with white; a stripe down the sides of the throat and a broad gorget of black spots, tinged on the wider portions with rufescent brown; flanks and under tail-coverts barred or spotted with blackish; bill black, greenish at the base; legs olive-green; iris dark brown. Culmen 2·8, wing 7·4, tail 4·2, tarsus 0·5 inch. The female lacks the rufous on the throat or gorget, and has rufescent brown under wing-coverts and axillaries.

Hab. The Himalayas west to Kashmir to an elevation of 7000 feet, also in the hills south of Assam and those of Tenasserim, but not recorded from the intervening country; South-east Kan-su; Central China; Japan, resident in the southern islands, but a partial migrant in Yesso.

Extremely shy and wild, it is difficult of approach, and is usually seen in pairs. It sits on a bush or bough overhanging the water in shady places, watching for fish on which it feeds entirely. It has two notes, one like the other Kingfishers', but less quickly repeated, the other a guttural croak which serves as a call-note. It breeds from April to June, excavating a nest-chamber at the end of a hole about 2 feet long, and deposits 3 to 4 roundish glossy white eggs of great size.

HALCYON, Swains., 1820.

660. Ruddy Kingfisher.

HALCYON COROMANDUS.

Halcyon coromandus (Lath.), Ind. Orn. i. p. 252 (1790); Sharpe, Monogr. Alced. p. 155, pl. 57; id. Cat. B. Br. Mus. xvii. p. 217; Seebohm, B. Jap. Emp. p. 173; (David and Oust.) Ois. Chine, p. 76; *H. lilacina*; Swains, Classif. of B. ii. p. 335 (1837); Blanf. F. Brit. Ind. Birds, iii. p. 134.

Kio-roro, Jap.

♂ *ad.* (India). Upper parts with sides of the head and neck, wings and tail light chestnut, glossed with violet-red ; middle of the lower back and rump white mixed with pale blue, or sometimes with violet ; under parts cinnamon buff, paler on the throat and middle of the abdomen, and becoming pale buff on the chin ; bill red, blackish at the base ; legs brownish red ; iris blue grey. Culmen 2·3, wing 4·4, tail 2·6, tarsus 0·5 inch. The female is duller and browner in colour, and the young bird has dark edges to the breast-feathers.

Hab. Eastern Himalayas, China, Corea, Japan, Java, Sumatra, and the Philippines.

Inhabits forests, and not unfrequently mangrove swamps near the coast, and is shy in its habits. It is said to be very noisy in rainy weather when its mournful cry *kīo-roro* may be heard at a long distance. Respecting its food and nesting habits I find nothing on record.

661. SMYRNA KINGFISHER.

HALCYON SMYRNENSIS.

Halcyon smyrnensis (Linn.), Syst. Nat. i. p. 181 (1766) ; Sharpe, Monogr. Alced. p. 161, pl. 59 ; Dresser, v. p. 133, pl. 292 ; Sharpe, Cat. B. Br. Mus. xvii. p. 222 ; Blanf. F. Brit. Ind. Birds, iii. p. 132 ; *H. fusca* (Bodd), Tabl. Pl. Enl. p. 54 (1783) ; Jerdon, B. of Ind. i. p. 224 ; *H. saturatior* ; Hume, Str. Feath. ii. pp. 168, 531 (1874).

Jeshil Balukdje, Turkish ; *Kilkila,* Hindu. ; *Khandu,* Mahr. ; *Pelihudawa,* Cing. ; *Dane-nyin,* Burm.

♂ *ad.* (Asia Minor). Head, neck, sides of breast, and under parts below the breast rich chestnut-red ; back, scapulars, outer web of secondaries, and upper surface of the tail deep cobalt blue, with a faint greenish tinge ; rump and upper tail-coverts deeper cobalt ; base of primaries white, the rest black, the outer webs blue ; larger wing-coverts dark blue, median coverts black, edged with bluish, the lesser chestnut ; throat and breast pure white ; bill coral-red ; legs vermilion ; iris brown. Culmen 2·4, wing 5·2, tail 3·7, tarsus 0·7 inch. Sexes alike.

Hab. Cyprus, Asia Minor, Palestine, Arabia, Persia ; the whole of India ; Burma ; Ceylon ; the Malay Peninsula, Cochin China, and Southern China.

In its habits it is shy and solitary, and will sit for hours on an elevated perch, and is to be found near water or away from it in the open jungle. Its note is harsh and discordant, and is always uttered in flight. Unlike *Alcedo* and *Ceryle*, it does not feed on fish, but on frogs, toads, lizards, snakes, and locusts, &c. It burrows a tunnel in a bank with an enlarged nest-chamber at the end, and late in April or early in May lays 4 to 7 eggs, which are glossy white, round in shape, and average 1·13 by 1·03 in size.

662. BLACK-CAPPED KINGFISHER.

HALCYON PILEATUS

Halcyon pileatus (Bodd), Tabl. Pl. Enl. p. 41 (1783) ; Sharpe, Monogr. Alced. p. 169, pl. 62 ; id. Cat. B. Br. Mus. xvii. p. 229 ; (David and Oust.), Ois. Chine, p. 75 ; Blanf. F. Brit. Ind. Birds, iii. p. 133 ; (Tacz.), F. O. Sib. O. p. 193 ; *H. atricapilla*, (Gmel.), Syst. Nat. i. p. 453 (1788) ; Gould, B. of Asia, i. pl. 45.

♂ *ad.* (India). Crown, nape, and sides of the head black ; a broad white collar passes round the neck, followed by a blackish band ; upper parts generally deep blue, the lower back and rump brighter ; primaries white at the base, black otherwise, the outer webs lilac and blue ; tail deep blue on the upper, and black on the under surface ; a few feathers below the eye, chin, throat, and middle of the breast white ; rest of the under parts with the sides of the throat and breast rich rufous buff ; bill deep red ; legs dark red ; iris dark brown. Culmen 2·45, wing 5, tail 3·3, tarsus 0·6 inch. Sexes alike. The young birds have black spots on the sides of the throat, and the breast-feathers dark-margined.

Hab. Southern India, rare in Ceylon ; Indo-Malayan countries and islands south to Celebes ; Siam, Cambodia, China, and Corea.

Inhabits brackish creeks and mango swamps chiefly on or near the salt water, but is occasionally seen on fresh water streams. Extremely shy and wary it is not easy to procure specimens. Its note is said to be a shrill discordant cry, and has been likened to that of *Dendrocopus major.* It feeds chiefly on crabs, but also on fish. Respecting its nesting habits I find nothing on record.

CORACIAS, Linn., 1766.

663. ROLLER.

CORACIAS GARRULUS.

Coracias garrulus, Linn. Syst. Nat. i. p. 159 (1766) ; Naum. ii. p. 168, Taf. 60 ; Hewitson i. p. 253, pl. lxiv. fig. 3 ; Gould, B. of E. ii. pl. 60 ; id. B. of Gt. Brit. ii. pl. 11 ; Newton, ii. p. 428 ; Dresser, v. p. 141, pl. 293 ; id. Monogr. Corac. p. 19, pl. vii. ; Sharpe, Cat. B Br. Mus. xvii. p. 15 ; Blanf. F. Brit. Ind. Birds, iii. p. 106 ; Saunders, p. 281 ; Lilford, ii. p. 17, pl. 8.

Rollier vulgaire, French; *Rollieiro*, Portug.; *Carlanco, Carranco*, Span.; *Ghiandaja marina*, Ital.; *Blauracke, Mandelkrähe*, Germ.; *Racke*, Dutch; *Ellekrage*, Dan.; *Blaakraake*, Norw.; *Blåkråka*, Swed.; *Sininärhi*, Finn.; *Civovoronka*, Russ.; *Chalkoroni*, Greek; *Alla-Karga*, Turk.; *Sharrakak*, Moor.; *Shugurug*, Arab.; *Subz-Kullag*, Pers.; *Nila-Kras*, Kashm.; *Sheen-Tootee*, Pushtoo.

♂ *ad.* (Spain). Head, hind-neck, and under parts pale blue tinged with green, darker on the head and throat, paler on the abdomen; forehead and chin hoary white; back, scapulars, and inner secondaries cinnamon brown; least wing-coverts, rump, and upper tail-coverts rich ultramarine; quills blackish, but light blue at the base; outer primaries externally glossed with deep blue; middle tail-feathers dull greenish blue, the rest dull blue, lighter towards the end; the outermost blackish at the tip; throat striped with silvery blue; bill black; legs yellowish brown; iris brownish grey. Culmen 1·3, wing 7·7, tail 5·0, tarsus 0·95 inch. Sexes alike, but the young are duller and browner.

Hab. Europe generally to 60° N. Lat.; accidental in England and Scotland; Africa in winter, south to the Cape Colony; Asia east to Western Siberia and Central Asia; India in Sind and the Punjab, and east to Khandesh, Ahmedabad, the Satpura Hills, Mussooree, and Garhwál.

Frequents woods and bush-covered plains, and is restless and uneasy. Its flight is quick and easy, and it has a habit of turning over or rolling on the wing like some Pigeons. Its note is a deep, harsh, *racker-racker-racker*, and a plaintive high *kräh*. Its food consists of various kinds of insects, worms, and small frogs, and it is also said to eat figs. It breeds in hollow trees, holes in walls, or even in holes in river banks, constructing a nest of roots and straws lined with hair or feathers, and in April, May, or June, according to latitude it deposits 4 to 5 pure white glossy, roundish eggs which average about 1·42 by 1·12.

664. INDIAN ROLLER.

CORACIAS INDICUS.

Coracias indicus, Linn. Syst. Nat. i. p. 159 (1766); Gould, B. of As. i. pl. 54; Dresser, v. p. 149, pl. 294; id. Monogr. Corac. p. 27, pl. viii.; Sharpe, Cat. B. Br. Mus. xvii. p. 10; Blanf. F. Brit. Ind. Birds, iii. p. 103; *C. bengalensis*, Linn. Syst. Nat. i. p. 159 (1766).

Nilkant, sabzak, Hindu.; *Tas*, Mahr.; *Pálú-pitta*, Tel.; *Kattukadei*, Tam.; *Doong-kowluwa*, Cingal.

♂ *ad.* (India). Forehead and chin rufous buff; crown and nape rich blue green; sides of and hind-neck deep vinous; back scapulars and innermost secondaries greenish brown; rump greenish blue; upper tail-coverts ultramarine; quills pale greenish blue, the primaries with an ultramarine central band, and tipped with blackish blue, the secondaries with terminal portion rich ultramarine; larger wing-coverts greenish blue, the lesser ultramarine; middle tail-feathers deep green, the rest ultramarine on the basal and terminal portions, otherwise pale blue; throat and upper breast vinous purple striped with creamy buff; lower breast rufous buff; rest of under parts greenish blue; bill blackish, but reddish at the base below; legs dusky orange yellow; iris yellowish grey, with a reddish brown inner circle, orbital skin and eyelid dull orange yellow. Culmen 1·3, wing 7·2, tail 5·3, tarsus 1·0 inch. Sexes alike.

Hab. India and Ceylon east to Calcutta, west through Baluchistan to Muscat on the Persian Gulf; Asia Minor, and of accidental occurrence in Turkey; a taxidermist's specimen is said to have been obtained in England.

In habits it does not seem to differ from *C. garrulus,* and like that bird, it breeds in hollow trees, in holes in walls, and even under the eaves of bungalows, sometimes making no nest, and at others forming a sort of nest of tow, old rags, grasses, and feathers, and from March to July according to locality depositing 3 to 5 pure white eggs like those of *C. garrulus*, which average 1·39 by 1·13.

EURYSTOMUS, Vieill., 1816.

665. Indian Broadbill.

EURYSTOMUS ORIENTALIS.

Eurystomus orientalis (Linn.), Syst. Nat. i. p. 159 (1766); David and Oust. Ois. Chine, p. 72; Sharpe, Cat. B. Br. Mus. xvii. p. 33, pl. ii. fig. 1; Dresser, Monogr. Corac. p. 67, pls. xvii. xviii.; Blanf. F. Brit. Ind. Birds, iii. p. 107; Tacz. F. O. Sib. O. p. 189; *C. calonyx*, Hodgs. Icon. Ined. in Brit. Mus.; *Passeres*, pls. 10, 11; id. in Gray's Zool. Misc. p. 82 (1844); Sharpe, op. cit. xvii. p. 38; pl. ii. fig. 2; *E. lætior*, Sharpe, P.Z.S. 1890, p. 551; id. op. cit. xvii. p. 36.

Phoyiong-pho, Lepch. in Darjeeling; *Leuk-hotsvey,* Canton; *Tihong-lampay, Tjetje,* Malay.; *Lallie,* Born.; *Tiong Batu,* Sumatr.

♂ *ad.* (India). Upper parts deep bluish green, the crown and sides of the head nearly black, upper surface of wings lighter and bluer; quills blackish, margined with blue; a basal patch of silvery blue on the primaries; tail-feathers black, margined externally at the base with deep blue; throat deep blue, with lighter stripes; rest of the under parts greenish blue; bill, legs, and feet red, the tip of the bill black; iris dark brown or greyish brown. Gape 1·2, wing 7·3, tail 4·6, tarsus 0·75 inch. Sexes alike.

Hab. Eastern Asia from Amoorland to China; India from the Himalayas to Ceylon and the Andamans, Burma, Malacca, Java, Sumatra, Borneo, and the Philippines.

In its habits this bird is almost crepuscular, is essentially a forest-haunting species, and is as a rule shy and wary. Its flight resembles that of a Kingfisher, but it usually flies at a considerable altitude. Its call-note is a deep guttural *ka*, and its usual note a harsh Jay-like *kiak, kiak*. Its food is said to consist exclusively of insects of various kinds, which it either captures on the wing, or picks from off the ground. It makes its nest in a hollow tree, and in March deposits on the chips of rotten wood at the bottom of the hole three eggs which are broad ovals, pure white, faintly glossy, and measure from 1·34 to 1·42 in length, and 1·14 to 1·16 in breadth.

MEROPS, Linn., 1766.

666. Bee-eater.

MEROPS APIASTER.

Merops apiaster, Linn. Syst. Nat. i. p. 182 (1766); Naum. v. p. 462, Taf. 143, figs. 1, 2; Hewitson, i. p. 254, pl. lxiv. fig. 2; Gould, B. of E. ii. pl. 59; id. B. of Gt. Brit. ii. pl. 9; Newton, ii. p. 435; Dresser, v. p. 155, pl. 295; id. Monogr. Merop. p. 75, pl. 18; Sharpe, Cat. B. Br. Mus. xvii. p. 63; Blanf. F. Brit. Ind. Birds, iii. p. 113; Saunders, p. 283; Lilford, ii. p. 16, pl. 7.

Guêpier vulgaire, French; *Abelharuco*, *Melharuco*, Portug.; *Abejaruco*, Span.; *Gruccione*, Ital.; *Bienenfresser*, German; *Biæder*, Dan.; *Biätare*, Swed.; *Tschur*, Russ.; *Mĕmuna*, Arab.; *El Leecamoon*, Moor.

♂ *ad.* (Spain). Head, neck, and upper back deep chestnut, fading into pale chestnut on the lower back and rump, and into isabelline on the scapulars; forehead and supercilium white tinged with blue green; upper surface of wings green, the wing-coverts chestnut; upper tail-coverts pale green; tail greenish grey, the middle feathers elongated and tinged with olive; a line below the eye enclosing the ear-coverts, and another across the lower throat deep black; chin, throat, and cheeks golden yellow; rest of the under parts greenish cobalt, paler behind; bill black; legs pale reddish brown; iris carmine red. Culmen 1·6, wing 6·1, tail 5·0, tarsus 0·4 inch. Female similar but duller.

Hab. Southern Europe, rarer in the central and northern parts; of accidental occurrence in Scandinavia, Great Britain, and Ireland; Canaries, Madeira, and Africa; Asia Minor and Asia as far east as the Punjab, Baluchistan, and Sind, and the Irtish river in the north.

Gregarious at all seasons and frequents rivers and plains. In its flight it resembles the Swallow, but is not so active and swift. It feeds on insects of various kinds, bees, wasps, grasshoppers, locusts, beetles, &c., which it both captures on the wing and picks off trees, bushes, and plants. It usually breeds in the banks of rivers or streams, but sometimes far from water, and burrows a long round hole ending in a chamber about a foot in diameter. I have found their nest-holes burrowed in flat ground away from water. The eggs 5 to 6 in number are usually deposited in May or June, and are placed on the refuse in the nest-chamber, no nest being made. The eggs are roundish, pure glossy white, and measure about 1·2 by 0·9. The usual cry of this bird is harsh and monotonous, but when on the wing it utters a pleasant, subdued, warbling chirp.

667. BLUE-CHEEKED BEE-EATER.

MEROPS PERSICUS.

Merops persicus, Pall. Reis. Russ. Reichs, ii. Anhang. p. 708 (1773); Dresser, v. p. 165, pl. 296; id. Monogr. Merop. p. 63, pl. xvi.; Sharpe, Cat. B. Br. Mus. xvii. p. 66; Blanf. F. Brit. Ind. Birds, iii. p. 112; *M. ægyptius*, Forsk, Descr. Anim. Aves, p. 1 (1775); Shelley, B. Egypt, p. 170, pl. vii. fig. 1; *M. savignyi*, Audouin expl. somm. p. 371 (1825).

Guêpier d'Égypte, French; *Gruccione forestiero*, Ital.

♂ *ad.* (Egypt). Forehead white passing into blue; supercilium blue; upper parts with wings parrot green, tinged with blue on the upper tail-coverts, and with russet on the wings and tail; a broad black stripe passes from the gape through the eye to the ear, and is margined with white and then blue, passing to green on the cheeks; chin dark yellow; throat fox-red; rest of under parts parrot green; bill black; legs dark brown; iris crimson. Culmen 1·9, wing 6·25, tail 5·3, middle feathers extending 1·62 beyond the lateral ones, tarsus 0·5 inch. Sexes alike.

Hab. Of rare occurrence north of the Mediterranean; Africa south to Cape Colony; Asia north to Gurieff in Russia, south to the plains of India, and east to the Bombay Deccan.

In habits, note, food, and nidification, it does not differ from *M. apiaster*, and its eggs are also similar.

668. Green Bee-eater.

MEROPS VIRIDIS.

Merops viridis, Linn. Syst. Nat. i. p. 182 (1766); Shelley, B. of Egypt, p. 171; Dresser, v. p. 171, pl. 297; id. Monogr. Merop. p. 31, pls. viii, ix.; Sharpe, Cat. B. Br. Mus. xvii. p. 78; Blanf. F. Brit. Ind. Birds, iii. p. 110; *M. viridissimus*, Swains. B. W. Afr. ii. p. 82 (1837).

Patringa, *Harrial*, Hindu.; *Kurumenne-Kurulla*, Cing.; *Hnet-pasin-to*, Burm.

♂ *ad.* (Egypt). Upper parts, wings, and tail bright green, under parts similar but duller; crown and nape tinged with rufescent golden, the lower back, rump, scapulars, and inner secondaries, with blue green; quills rufous on the inner webs, and tipped with black; tail-feathers dusky rufescent on the inner webs, the middle feathers much elongated; a band through the eye and gorget black; a line below the eye-band bright blue; throat and abdomen tinged with blue; bill blackish; legs dull plumbeous; iris crimson. Culmen 0·95, wing 3·65, lateral tail-feathers 2·95, the middle ones 5·35, tarsus 0·45 inch. Sexes alike. Specimens from India have the throat bluer, and those from Burma have the head ferruginous.

Hab. North-eastern Africa and Senegambia north to Palestine; in Asia through Persia to India, Ceylon, Burma, Siam, and Cochin China.

In habits, note, and food, this species does not differ from its allies. Its nest-hole, which is from 3 to 7 feet in length with a globular chamber at the end, is tunnelled in a bank, or sometimes on level ground, and from March to May its 4 to 6 eggs are deposited on the bare ground. These are glossy white, roundish in form, and in size average about 0·76 by 0·68.

UPUPA, Linn., 1766.

669. Hoopoe.

UPUPA EPOPS.

Upupa epops, Linn. Syst. Nat. i. p. 183 (1766); Naum. v. p. 437, Taf. 142, figs. 1, 2; Hewitson, i. p. 249, pl. lxiii. fig. 3; Gould, B. of E. iii. pl. 238, id. B. of Gt. Brit. ii. pl. xii; Newton, ii. p. 419; Dresser, v. p. 179, pl. 298; Salvin, Cat. B. Br. Mus. xvi. p. 4; Blanf. F. Brit. Ind. Birds, iii. p. 159; Seebohm, B. Jap. Emp. p. 159; Saunders, p. 285; Lilford, ii. p. 20, pl. 9.

Huppe vulgaire, French; *Poupa*, Portug.; *Abubilla*, Span.; *Bubbola*, Ital.; *Wiedehopf*, Germ.; *De Hop*, Dutch; *Hærpop*, Dan.; *Hærfugl*, Norw.; *Härfogel*, Swed.; *Ydod*, Russ.; *Hudhud*, Pers. and Hind.; *Sutár*, Mahr.; *Katkuto*, Sind.

♂ *ad.* (Spain). Head with a large crest, tawny in colour, the feathers tipped with black, the hinder ones with a subterminal white band; face, neck, and breast vinous cinnamon; upper back greyish brown; middle of back and scapulars black barred with pale isabelline; rump pure white; quills black, the wings barred black and white; upper tail-coverts black, margined with isabelline; tail black with a broad white band across the middle; abdomen whitish, the flanks striped with brown; bill black, but fleshy pink at the base below; legs dusky brown; iris pale brown or reddish brown. Culmen 2·3, wing 5·5, tail 3·8, tarsus 0·85 inch. Sexes alike.

Hab. Southern and Central Europe, straying north to Scandinavia, Great Britain (where it has nested), and Ireland; Africa, wintering in N. E. Senegambia and N. E. Africa; Arabia; Asia east to the plains of India and Assam; Manchuria, China, and has once been obtained in Japan. It has also once been recorded as far north as Spitsbergen.

Frequents plains and open country, either cultivated or waste, and is often seen near villages, or inhabited places. Though sprightly and active it is very shy and wary, and is generally to be seen on the ground. Usually its crest is closed, but when alarmed or excited it is erected and spread. Its note is a deep *hoop, hoop.* Its food consists of insects of various kinds, their larvæ, worms, &c., which it obtains on the ground. It places its scanty nest, which is usually made of grass, feathers, and a few twigs, in the hollow of a tree, a hole in a wall or rock, or under a stone, and in May or June deposits 5 to 7 eggs, which when freshly laid are pale greenish blue, but soon become stained and dirty and fade to dull dirty yellow. In size they average about 1·04 by 0·68. The nest soon becomes foul and dirty, and after the young are hatched it is intolerably filthy and malodorous.

CUCULUS, Linn., 1766.

670. CUCKOO.

CUCULUS CANORUS.

Cuculus canorus, Linn. Syst. Nat. i. p. 168 (1766); Naum. v. p. 196, Taf. 127, 128, 129; Hewitson, i. p. 251, pls. xiii. figs. 1, 2; Gould, B. of E. iii. pl. 240; id. B. of Gt. Brit. iii. pls. 67, 68; Newton, ii. p. 387; Dresser, v. p. 199, pl. 299; David and Oust. Ois. Chine,

p. 64; Shelley, Cat. B. Br. Mus. xix, p. 245; Blanf. F. Brit. Ind. Birds, iii. p. 205; Tacz. F. O. Sib. O. p. 685; Saunders, p. 287; Seebohm, B. Jap. Emp. p. 169; Lilford, ii. p. 21, pl. 10; *C. hepaticus*, Sparrm. Mus. Carls. p. 55 (1789).

Coucou gris, French; *Cuco*, Portug.; *Cucu*, Span.; *Cuculo*, Ital.; *Kuckuk*, German; *Koekoek*, Dutch; *Gjög*, Dan.; *Gjök*, Norweg.; *Gök*, Swed.; *Käki*, Finn.; *Kiekka*, Lapp.; *Kukushka*, Russ.; *Takouk*, Moor.; *Tāgug*, Arab.; *Phuphu*, Hindu.; *Kukku* Lepch.; *Kakko*, Jap.

♂ *ad.* (England). Upper parts dark bluish ash, paler on the head and bluer on the rump and upper tail-coverts; quills ashy brown barred with white on the inner web; tail graduated, blackish, spotted and tipped with white; throat and upper breast pale ashy blue; rest of the under parts white barred with blackish; bill blackish horn, at the base and along the edge yellowish; gape orange yellow; legs and iris yellow. Culmen 0·9, wing 8·35, tail 7·0, tarsus 0·92 inch. Sexes alike. The young bird is deep clove-brown above, barred with pale rusty brown, the feathers mostly tipped with white, and a white spot on the nape; quills dark brown barred with ferruginous and tipped with white, the inner webs barred with white; tail clove-brown barred with ferruginous and spotted and tipped with white; under parts buffy white, warmer in tinge on the abdomen, and barred with blackish. A peculiar hepatic plumage, much more rufous than that of the young bird is not seldom retained over the first year.

Hab. All Europe up to, or a little beyond the Arctic Circle; Africa as far south as Natal and Damaraland; Madeira; Canaries; Asia from lat. 67° N. south to Celebes and east to Japan. It breeds in the northern and central portions of its range, wintering in the south.

In its general habits it is wild and shy, and is but seldom seen though so often heard. On the wing it resembles a Hawk and is tolerably swift, but on the ground it is ungainly, progressing by means of short hops. The well-known call is uttered by the male, and the note of the female is a laughing *Quickwickwick* preluded by a low, harsh sound. Its food consists almost exclusively of insects of various kinds, especially of hairy caterpillars, but it also eats small snails and even seeds.

Much has been written on the breeding of the Cuckoo, but I may briefly remark that this species does not pair, and that the female has indiscriminate intercourse with several males. The egg is probably laid on the ground and the female takes it in her bill and places it in the nest of the bird she has selected as a foster-parent. The eggs vary considerably in colour and markings but it seems that each female produces regularly eggs similar in appearance, and probably, if possible, selects the same species as foster-parent for her offspring as has been the foster-parent to herself, but this has scarcely yet been proved to be the case. When hatched, the young Cuckoo soon ejects the eggs or young of its foster-parent from the nest. A female is said to produce as many as 20 eggs in the season, and generally one but sometimes two, the produce of different birds, are placed in the same nest. As above stated, the eggs differ considerably in appearance, and greenish-blue varieties have been found, but as a rule the usual colours are greyish green or greyish rufous, mottled and spotted with various shades of brown, and in size average 0·88 by 0·65, and they are as a rule very close grained in the shell and proportionately heavy. Many species of birds in whose nests Cuckoos' eggs have been found are enumerated by different authors, and Dr. Rey gives a list of 146 of such.

671. Himalayan Cuckoo.

CUCULUS SATURATUS.

" *Cuculus saturatus*, Hodgs." Blyth. J. A. Soc. B. xii. p. 942 (1843); Blanf. F. Brit. Ind. Birds, iii. p. 207; id. P.Z.S. 1893, p. 319; Tacz. F. O. Sib. O. p. 689 (nec. Drap.); *C. himalayanus*, Jerd. B. of Ind. i. p. 323; (1862 nec. Vig.); *C. intermedius*, Shelley, Cat. B. Br. Mus. xix. p. 252 (1891 nec. Vahl.)

Tong-ting vyang, Lepch.; *Tsu-tsu-dori*, Jap.

♂ *ad.* (India). Differs from *C. canorus* in being somewhat smaller and having a somewhat stouter bill; the upper parts are much darker, the under parts are more tinged with buff, and the black bands are broader; the edge of the wings is also pure white. Culmen 0·7, wing 7·2, tail 6·0, tarsus 0·75 inch.

Hab. E. Persia; India, but rare south of the Himalayas; Eastern Siberia, ranging tolerably far west; Kamchatka; Japan; China; in winter ranging south through Burma, and the Malay peninsula to New Guinea and Australia.

Resembles *C. canorus* in general habits, but its cry is a deep *hoo*, *hoo* uttered several times in succession; like *C. canorus* it is parasitic, and its eggs have been found in the nests of *Trochalopterum lineatum*, *Pratincola caprata*, *Cettia cantans*, and *Anthus trivialis*. According to Taczanowski they are pale greyish, marked with numerous irregular pale violet shell-spots, and brown surface-spots or blotches, which are more numerous round the larger end, and measure 0·92 by 0·69.

672. GREYHEADED CUCKOO.

CUCULUS POLIOCEPHALUS.

Cuculus poliocephalus, Lath. Ind. Orn. i. p. 214 (1790); Gould, Cent. B. Himalay. pl. 54; Shelley, Cat. B. Br. Mus. xix. p. 255; Blanf. F. Brit. Ind. Birds, iii. p. 208; Tacz. F. O. Sib. O. p. 693; *C. bartletti*, Layard, Ann. and Mag. Nat. Hist. 2nd. ser. xiii. p. 452 (1854).

Dang-hlem, Lepch.; *Pichu-giapo*, Bhotia; *Hototigisu*, Jap.

ad. (Japan). Resembles *C. canorus* but is considerably smaller, the upper parts are darker, the abdomen and under tail-coverts are warm buff and the black bars on the breast are broader; bill blackish horn; the base of the lower mandible, gape, eyelid, and feet yellow; iris brown. Culmen 0·75, wing 6·0, tail 5·0, tarsus 0·6 inch. Sexes alike. The young resemble those of *C. canorus* but are darker.

Hab. Himalayas, N. China, and Japan in summer, wintering in India, Ceylon, the Malay Peninsula, Java, and Borneo; Africa south of 6° N. Lat., and Madagascar (*C. rochi*).

This Cuckoo frequents the outskirts of forests, especially where there are old trees, and is very shy. Its note differs greatly from that of the other Cuckoos, and is often uttered at night. It consists of an unmusical call of several syllables, and is often heard, as it is a noisy bird. In general habits, food, and mode of nidification it resembles *C. canorus*, but its eggs are not yet known with certainty.

673. INDIAN CUCKOO.

CUCULUS MICROPTERUS.

Cuculus micropterus, Gould, P.Z.S. 1837, p. 137; David and Oust. Ois. Chine, p. 64; Shelley, Cat. B. Br. Mus. xix. p. 241; Blanf. F. Brit. Ind. Birds, iii. p. 210; *C. striatus*, Gray, Cat. Mamm. etc. Nepal (1846); Seebohm, Ibis, 1878, p. 327.

Boukotako, Beng.; *Takpo*, Lepch.; *Kankatong*, Bhot.

♂ *ad.* (Burma). Upper parts dark brown, the head, neck, and sides of the latter merging into dark grey; quills with white bars on the inner webs; tail rather paler than the back, with a broad subterminal black band tipped with white, and with white and black marks along the shafts of the feathers; throat and breast pale ashy; rest of the under parts creamy white barred with black; bill blackish horn above, dull green below;

gape and legs yellow; iris rich brown, eyelids greenish plumbeous, the edges deep yellow. Culmen 1·0, wing 8·1, tail 6·3, tarsus 0·8 inch. The female differs only in having the throat and breast browner.

Hab. The Himalayas, China, Japan, India, and Ceylon, ranging through the Burmese provinces to Malacca, Java, Sumatra, Borneo south to the Moluccas. It does not appear to occur in Siberia.

In its general habits it resembles *C. canorus*, but its call-note is a fine melodious whistle resembling the syllables *la-sol-sol-mi*, and is only heard during the day. It is extremely wild and shy and frequents the plains and bush-covered low hills. Its eggs appear to be as yet unknown.

COCCYSTES, Gloger, 1842.

674. GREAT SPOTTED CUCKOO.

COCCYSTES GLANDARIUS.

Coccystes glandarius (Linn.), Syst. Nat. i. p. 167 (1766); (Naum.) v. p. 237, Taf. 130, figs. 1, 2; (Gould), B. of E. iii. pl. 241, (id.) B. of Gt. Brit. iii. pl. 69; (Hewitson), Ibis, 1859, pl. ii. figs. 1, 2 (eggs); Newton, ii. p. 408; Dresser, v. p. 219, pl. 300; Shelley, Cat. B. Br. Mus. xix. p. 212; Saunders, p. 289; Lilford, ii. p. 23, pl. 11.

Coucou-geai, French; *Cucu-rabilongo*, Portug.; *Cucu real*, Span.; *Cúculo Africano*, Ital.; *Heher-Kuckuk*, German; *Teir el Keber*, Moor.

♂ *ad.* (Spain). Head crested; crown and nape dull bluish grey, the shafts of the feathers black; upper parts dull earth-brown, in parts tinged with fulvous, the quills, wing-coverts, and some dorsal feathers tipped with white, the upper tail-coverts greyer and marked with white; tail much graduated, blackish brown, all but the two middle feathers white at the ends; under parts white, the breast and throat tinged with isabelline; bill blackish horn, yellowish at the base below; legs and feet dull plumbeous; iris dull brown. Culmen 1·05, wing 8·2, tail 9·5, tarsus 1·30 inch. Sexes alike. The young bird has the head blackish brown, not crested, and the basal two-thirds of the primaries are chestnut-red.

Hab. South-western and southern Europe, rarer in the east; an accidental visitant to central Europe and the British Islands; Africa, as far south as the Cape Colony in winter; Western Asia as far east as Persia.

In its general habits it resembles *C. canorus*, and is quite as wild and shy; its flight is steady and rather dipping, and its long tail makes it easily recognizable. Its call-note is a loud *kee-ou*, *kee-ou*, and when alarmed a grating *cark*, *cark*, and that of the female *burroo*, *burroo*. Its food consists of insects of various kinds, chiefly caterpillars. Like its allies it is parasitic, and in the Iberian Peninsula places its eggs in the nests of the Magpie, Blue-winged Magpie, and occasionally the Raven, in Algeria in those of the Moorish Magpie, and in North-East Africa in those of the Hooded Crow and *Corvus affinis*; not unfrequently two or even four Cuckoo's eggs are found in the same nest. The eggs are more elliptic in shape, smoother and closer in texture than those of the foster-parent, pale greenish blue in ground colour, spotted, dotted, and blotched with pale liver-brown and bright reddish brown, and in size average 1·28 by 0·96.

HIEROCOCCYX, S. Müller, 1839–44.

675. HAWK-CUCKOO.

HIEROCOCCYX SPARVEROIDES.

Hierococcyx sparveroides (Vigors), P.Z.S. 1831, p. 173; (Gould), Cent. Himal. B. pl. 53; (David and Oust.), Ois. Chine, p. 63; Shelley, Cat. B. Br. Mus. xix. p. 232; Blanf. F. Brit. Ind. Birds, iii. p. 211; Tacz. F. O. Sib. O. p. 694; *H. strenuus* (Gould), P.Z.S. 1856, p. 96; (id.) B. of Asia, vi. pl. 42.

Bara Bharao, Nepal.; *Nimbin-piyul*, Lepch.

♂ *ad.* (India). Crown, sides of head, hind-neck, and chin slate-grey; upper parts generally rich brown, the quills barred with white on the inner webs; tail greyish brown, with three narrowish and a broad terminal blackish brown bands, and narrowly tipped with brownish white; throat and upper breast striped with greyish brown and marked with rufous; rest of the under parts white, the lower breast, flanks and abdomen barred with blackish brown and more or less tinged with rufous; upper mandible dark brown, lower greenish; gape, orbit, iris, and legs yellow. Culmen 1·0, wing 9·1, tail 8·25, tarsus 1·1 inch. Sexes alike. The young bird has the upper parts brown, the feathers margined and faintly banded with rufous, the under parts reddish white streaked and spotted with dark brown.

Hab. The Himalayas, west to Chamba, east to the hills south of Assam and Burma; China, Eastern Siberia, and Japan, ranging south to the Malay peninsula, the Philippines, and Borneo in winter.

Frequents wooded districts, and in summer is found at elevations up to 9,000 feet. Its flight is swift and graceful, and its food consists of insects, chiefly of caterpillars. It places its eggs in the nests of other birds, but is said to occasionally build its own nest of sticks without lining. Its eggs are described as being white, slightly speckled, measuring 1·39 by 1·05.

The note of this bird is described as being a loud melodious call, *chuck-dot-dot*, and also one resembling the cough of a human being.

676. HODGSON'S HAWK-CUCKOO.

HIEROCOCCYX FUGAX.

Hierococcyx fugax (Horsfield), Tr. Linn. Soc. xiii. p. 178 (1821); Shelley, Cat. B. Br. Mus. xix. p. 236; *H. nisicolor* (Hodgs.), Icon. Ined. in Brit. Mus.: Passeres, pl. 357, fig. 1; (Blyth), J.A.Soc. Beng. 1843, p. 943; Blanf. F. Brit. Ind. Birds, iii. p. 214; *H. hyperythrus* (Gould), P.Z.S. 1856, p. 96; (id.) B. of Asia, vi. pl. 43; Seebohm, B. Jap. Emp. p. 171; *H. sparveroides*, (nec. Vigors); Schrenck, Reis. im Amurl. Vög. p. 257, pl. 10.

Ding-pit, Lepcha.; *Jiu-ichi, Ji-shin-cho*, Jap.

♂ *ad.* (Burma). Differs from *H. sparveroides* in being smaller, in having the upper parts all slaty grey, the tail barred like that species but conspicuously tipped with rufous; under parts striped, not barred. Upper mandible horny black, lower mandible and around nostrils pale green; gape greenish yellow; legs and eyelids bright yellow; iris orange-red. Culmen 0·88, wing 7·5, tail 5·55, tarsus 0·8 inch. According to Blakiston and Pryor the female has the breast uniform reddish brown without stripes. The young bird differs from that of *H. sparveroides* in having the stripes on the under parts narrower and more clearly defined.

Hab. South-east Siberia, Japan, China, Burma; the Himalayas west to Nepal; Assam, south to the Malay Archipelago.

In habits it resembles *H. sparveroides*, and its note is described as *jiu-ichi* quickly reiterated. Nothing is known respecting its breeding habits except that an egg extracted from the oviduct of the bird was uniform olive brown, with a darker zone round the larger end, and measured 0·89 by 0·64. Mr. Owston of Yokohama states, however, that the egg of this Cuckoo is blue.

COCCYZUS, Vieill., 1816.

677. YELLOW-BILLED CUCKOO.

COCCYZUS AMERICANUS.

Coccyzus americanus (Linn.), Syst. Nat. i. p. 170 (1766); Gould, B. of E. iii. pl. 242; Audubon, B. of Am. iv. pl. 275; Newton, ii. p. 415; Dresser, v. p. 227, pl. 301, fig. 2; Shelley, Cat. B. Br. Mus. xix. p. 308; Saunders, p. 290; Lilford, ii. p. 28, pl. 12.

♂ *ad.* (Texas). Upper parts metallic olivaceous brown, the two outer quills cinnamon-red nearly to the tip, paler on the inner web; middle tail-feathers like the back, the rest tipped with, and the outermost on the outer web, white; under parts white, sides of neck faintly tinged with ash; upper mandible bluish horn, at the base yellow; lower mandible yellow tipped with horn-blue; legs light plumbeous; iris dark brown. Culmen 0·95, wing 5·9, tail 6·2, tarsus 1·05 inch. Sexes alike. The young bird has less white on the tail, and less rufous on the wings.

Hab. North America from Canada to Brazil; West Indies; has occurred in Europe as a rare straggler, at least ten times in England, Wales, and Ireland, once in Belgium, and once in Italy.

Inhabits well wooded localities, especially those bordering the rivers, and though not very shy is wary and secretive in its general habits. Its note is a somewhat monotonous though not unpleasing *koo, koo, koo, koo*, or *ków, ków, ków, ków*, and it is said to be most clamorous at the approach of rain. Its food consists chiefly of insects, but it is said to take and eat the eggs of other birds. Unlike *C. canorus* it is not parasitic, but builds a slight nest of twigs and grass not unlike that of a Dove, which it places on the branch of a tree, and late in April or in May deposits 4, seldom 5 eggs, elliptical in form, in colour delicate light blue slightly tinged with green, occasionally clouded with white, in size averaging about 1·22 by 0·93.

The eggs of this bird are said to have been found in the nests of other species, but in such cases it would seem that the Cuckoo intended to usurp the nest of the other bird, and not to entrust her eggs to a foster-parent. The eggs are frequently deposited at intervals of several days, so that when the young are all hatched one may be nearly ready to leave the nest, and the youngest only hatched a few days or a week previously.

678. BLACK-BILLED CUCKOO.

COCCYZUS ERYTHROPHTHALMUS.

Coccyzus erythrophthalmus (Wilson), Am. Orn. iv. p. 16, pl. 28, fig. 2 (1811); Audubon, B. Am. iv. p. 300, pl. 276; Dresser, v. p. 231, pl. 301, fig. 1; Shelley, Cat. B. Br. Mus. xix. p. 311; Saunders, p. 290.

♂ *ad.* (N. America). Upper parts and tail metallic olivaceous, forehead tinged with ashy grey; wings with a faint coppery tinge, the inner webs of the primaries faintly tinged with cinnamon; middle tail-feathers with a subterminal dark brown mark and slightly tipped with white; under parts white, the throat tinged with yellowish buff, the sides of the neck, and the breast tinged with grey; under surface of the tail hoary grey; bill black, but bluish at the base below; legs light plumbeous; iris brown, and round the eye a dull vermilion naked skin. Culmen 0·92, wing 5·65, tail 6·5, tarsus 0·95 inch. Sexes alike.

Hab. Eastern North America, west to the Rocky Mountains, north to Labrador and Manitoba, south in winter to the West Indies, Central America, and South America to Colombia. Has occurred once in Ireland and once in Italy.

In habits and food it resembles *C. americanus* from which it is readily distinguishable by its black bill, but it is said to be less shy and wary than that bird. It builds its own nest and incubates its own eggs, but the nest is better constructed and finished than that of the Yellow-billed Cuckoo, and is placed, not on a tree, but on a bush usually two or three feet above the ground. The eggs, 3 to 6 in number, are deposited at irregular intervals, are rather smaller and darker than those of *C. americanus,* sometimes greener in tinge, usually rather smoother in texture and with a faint gloss, in size averaging 1·10 by 0·85.

STRIX, Linn., 1766.

679. TAWNY OWL.

STRIX STRIDULA

Strix stridula, Linn. Syst. Nat. i. p. 153 (1766); Newton, i. p. 146; *S. aluco,* Linn. Syst. Nat. i. p. 132; Naum. i. p. 473, Taf. 46, 47, fig. 1; Hewitson, i. p. 63, pl. xviii. fig. 2; (Gould), B. of E. i. pl. 47; (id.) B. of Gt. Brit. i. pl. 24; (Dresser), v. p. 271, pl. 306; (Sharpe), Cat. B. Br. Mus. ii. p. 247; (Saunders), p. 297; (Lilford), i. p. 87, pls. 41, 42.

Chouette-hulotte, French; *Coruja do mato,* Portug.; *Carabo,* Span.; *Allocco,* Ital.; *Waldkauz,* Germ.; *Boschuil,* Dutch; *Katugle,* Norw. and Dan.; *Kattuggla,* Swed.; *Kissapöllö,* Finn.; *Obiknovennaya-Sova,* Russ.; *Bu-ru-ru,* Arab.; *Lu-Lual,* Moor.

♂ *ad.* (England). Crown, neck, and upper parts generally ashy grey, mottled with two shades of brown; scapulars and larger wing-coverts with a large patch of white on the outer web; primaries barred with dull white and dark brown; middle tail-feathers vermiculated and the rest broadly barred with dull blackish brown; no ear tufts; the facial disk greyish white with a dark brown marginal line; under parts greyish white streaked with blackish brown; legs feathered down to the claws, white slightly marked with brown; bill light horn becoming yellow at the tip; iris blue-black; edge of the eyelid pinkish. Culmen 1·5, wing 10·9, tail 7·2, tarsus 2·0 inch. The female differs only in being rather larger in size.

This owl is subject to two phases of plumage, the one greyish and the other rufous, the latter being, it would seem, rather more common in the north than in the south.

Hab. Europe generally, becoming rarer in the high north and east, but has been met with in Lapland and three or four times in Finland ; North Africa ; occurs in the Kirghese forests but not in Asia further east.

Throughout its range it is a resident, frequenting woods and forests, and is essentially nocturnal in its habits. It feeds on small mammals and birds, large insects and even on fish and frogs, casting up the undigested portions in elongated pellets. Its flight is soft and noiseless, and its call-note is a loud hoot, and in the pairing season a wild laughing cry. It breeds early, selecting for the purpose of nidification a hollow tree, an old ruin, or a disused chimney, occasionally a deserted Rook's or Crow's nest, and in March deposits, on a slight bed of dry herbage, 3 to 5 pure white, smooth, roundish eggs, which in size average 1·8 by 1·6.

S. willkouskii (Menzbier), Bull. B. O. Club, vi. p. 4 (1896), from Transcaucasia, of which I have not seen a specimen, is said to differ from the present species in general colour, being darker, in character of markings, and in having the bill white.

680. URAL OWL.

STRIX URALENSIS.

Strix uralensis, Pall. Reis. Russ. Reichs, i. p. 445 (1771) ; Naum. i. p. 422, Taf. 42, fig. 1 ; Gould, B. of E. i. pl. 44 ; (Dresser), v. p. 277, pl. 307 ; (Tacz.) F. O. Sib. O. p. 138 ; (Sharpe), Cat. B. Br. Mus. i. p. 255 ; *S. liturata*, Tengmalm., Vet. Ak. Handl. 1793, p. 264 ; *S. fuscescens*, Temm. and Schlegel. Faun. Jap. Aves. pl. 10 (1850) ; (Sharpe), tom. cit. p. 256.

Ural-Habichts-Eule, German ; *Slag-ugle*, Norweg. ; *Slaguggla*, Swed. ; *Viirupöllö*, Finn. ; *Bolschaya-säraya-Sova*, Russ. ; *Fuhurō* Jap.

♀ *ad.* (Archangel). Upper parts greyish white, closely striped with dark brown ; wings and tail dark brown barred and tipped with ashy grey tinged with brown ; facial disks greyish white, the feathers with blackish shafts ; forehead and space between the disks deep brown ; ruff white mottled with dark brown ; under parts white broadly streaked with dark brown ; feet and legs densely feathered ; bill deep yellowish ; iris blackish brown. Culmen 1·8, wing 14·0, tail 11·10, tarsus 2·4 inch ; tail rounded, the outer feathers about 1·5 inch shorter than the middle ones. The male does not differ except that it is rather purer in colour, and smaller in size.

Hab. Northern and N. Central Europe from Styria to Lapland, where it is only a rare straggler; Siberia, east to Manchuria, Corea, and Japan; not found in Great Britain.

In general habits it resembles *S. stridula,* and like that bird frequents woods and groves, and feeds on small mammals, birds, and occasionally on large insects. Like *S. stridula* it breeds in hollow trees, or takes possession of a deserted nest, and in March or April deposits 2 to 4 roundish pure white eggs which measure about 1·91 by 1·65.

681. HIMALAYAN WOOD-OWL.

STRIX NIVICOLA.

Strix nivicola (Hodgs.), in Gray's Zool. Misc. p. 82, (1831–44,) Blyth, J.A.S.B. xiv. pp. 185, 550 (1845); (Sharpe), Cat. B. Br. Mus. ii. p. 250; (Blanford), F. Brit. Ind. Birds, iii. p. 273; (Berezovski and Bianchi), Ptitz. Gan-su, p. 43.

Kashi-op-tak-hum, Lepch.; *Uko,* Bhot.

♂ *ad.* (Nepal). Upper parts dark brown vermiculated and spotted with fulvous, with large white markings on the hind-neck, the scapulars and larger middle wing-coverts; quills brown barred and mottled with dull white; tail brown, with pale cross-bars; under parts dull yellowish white barred and striped except on the middle of the throat with dark brown; legs and toes irregularly barred; facial disk greyish with white shafts; ruff brown marked with white or fulvous; middle of the crown uniform dark brown; bill pale fleshy yellow; claws and iris dark brown. Gape 1·35, wing 12, tail 7·0, tarsus 2·0 inch. Sexes alike. In this owl as in *Strix stridula* there is a grey and a rufous form.

Hab. The Himalayas from Murree to Sikhim, east to Moupin in China, north to south-west Kan-su.

Very little is known of the habits of this owl, and nothing respecting its nidification. Its cry is said to be a double hoot.

682. BIDDULPH'S WOOD-OWL.

STRIX BIDDULPHI.

Strix biddulphi (Scully), Ibis, 1881, p. 423, pl. xiv.; (Blanf.) F. Brit. Ind. Birds, iii. p. 274.

♂ *ad.* Differs from *S. nivicola* in being larger and greyer, in having the middle tail-feathers and the outer webs of the next pair mottled throughout without cross-bars, the vermiculation of the upper parts finer, and the markings of the plumage are intermediate between those of *S.*

stridula and *S. nivicola;* bill green, yellow at the tip; cere olive; toe-scales pale green; claws black, slaty at base; iris dark brown. Gape 1·45, wing 13·5, tail 8·5, tarsus 2·5 inch.

Hab. Gilgit and Peshawar; Afghanistan?

Nothing is on record respecting the habits or nidification of this species.

683. Lapp Owl.

STRIX LAPPONICA.

Strix lapponica, Retz. Faun. Suec. p. 79 (1800); Naum. Nachtrag. Taf. 349; (Gould), B. of E. i. pl. 42; (Sharpe), Cat. B. Br. Mus. i. p. 254; (Dresser), v. p. 281, pl. 308; (Tacz.) F. O. Sib. O. p. 136; *S. barbata*, Pall. Zoogr. Ross. As. i. p. 318 (1811).

Lapland's Ugle, Norweg.; *Lapp Uggla*, Swed.; *Lapinpöllö*, *Pikku-huuhkaja*, Finn.; *Lappis-skuolffi*, Lapp.; *Kamennaja-sova*, Russ.; *Chakan*, *Maktschirga*, Yakutsk.

♀ *ad.* (Lapland). Upper parts dark ashy brown blotched and irregularly barred with white; scapulars white centrally striped and blotched with brown; quills and tail dark ashy brown with whitish bars vermiculated with greyish brown, the latter broadly tipped with dark brown; facial disk greyish white narrowly barred with dark brown; margin of the disk chocolate brown margined with white; chin blackish brown; under parts dull white streaked with dark brown; legs greyish white narrowly barred with greyish brown; bill yellowish horn; iris light yellow. Culmen 1·9, wing 18·0, tail 12·8, tarsus 2·55 inch. Male similar but smaller. The young bird has the upper parts sooty chocolate brown very little marked with white, the facial disk scarcely defined, the under parts brown closely barred with dull white.

Hab. Northern Scandinavia, Lapland, Finland, and North Russia, rarely straying south to Germany; Northern Siberia, and Kamchatka; of rare occurrence in S.E. Siberia.

Inhabits the large forests in the high north, and is as a rule shy and wary, but at its nest it is extremely bold. Its cry consists of three notes drawn out, the first hardest, the second lighter and short, the third lightest and most prolonged of all, *Hu*, *hu*, *huuu*. It feeds on small rodents especially lemmings and birds of different kinds. It lays in old deserted nests of the larger Raptores, and is also said to make its own nest; in May it deposits 3 to 7 pure white slightly glossy eggs, which in size average about 2·20 by 1·67.

In North America this owl is replaced by a nearly allied form *S. cinerea* Gmel., which differs merely in being darker, with the markings on the breast less distinctly defined.

NYCTEA, Steph., 1826.

684. SNOWY OWL.

NYCTEA SCANDIACA.

Nyctea scandiaca (Linn.), Syst. Nat. i. p. 132 (1766); Newton, i. p. 187; Dresser, v. p. 287, pls. 309, 310; Sharpe, Cat. B. Br. Mus. ii. p. 125; Saunders, p. 303; Lilford, i. p. 105, pl. 50; Blanf. F. Brit. Ind. iii. p. 290; *S. nyctea*, Linn. Syst. Nat. i. p. 132 (1766); Naum. i. p. 417, Taf. 41; Wils. Am. Orn. iv. p. 53, pl. 32, fig. 1; Gould. B. of E. i. pl. 43; *S. nivea*, Thurnb. Sv. Akad. Handl. 1798, p. 184; (Gould), B. of Gt. Brit. i. pl. 34; *S. arctica*, Bartr. Trav. Carol. p. 289 (1791).

Surnie Harfang, French; *Schnee-Eule*, Germ.; *Sneugle*, Dan. and Norweg.; *Fjelluggla*, *Harfang*, Swed.; *Skuolffi*, Lapp.; *Tunturipöllö*, Finn.; *Bielaya-sova*, Russ.; *Ak-uku*, Baskir.

♂ *ad.* (Siberia). Pure white, with the remains of a few dark bars on the upper parts, occasionally quite white; legs and feet covered with long, dense, hair-like feathers; on the head small, scarcely perceptible ear-tufts; bill and claws blackish horn; iris deep yellow. Culmen 2·25, wing 16·0, tail 8·8, tarsus 2·4 inch. The female is larger and has the upper parts closely barred with blackish brown, the under parts also, but with narrower bars.

Hab. The high northern portions of Europe, Asia and America, wandering south in winter, when it has been met with in the British Islands, France, Germany; once even in the N.W. Punjab. In North America it has been met with in winter as far south as Texas and the Bermudas.

Does not inhabit forests, but frequents the open, treeless plains, and rocky parts of the mountains, and is shy and wary, and though noiseless its flight is strong and protracted. It hunts both in the daytime and in the dusk of the evening, and preys on small rodents, Arctic hares, Willow Grouse, Ptarmigan, and other birds, fish, and carrion. Its cry is a loud *krau-krau*, and also *rick, rick, rick.* Its nest is a mere hollow in the open ground, or on the ledge of a rock, sometimes lined with a few feathers or a little grass, and from 4 to as many as 10 eggs are deposited in June or July at indefinite intervals so that fresh hatched as well as nearly fledged young are found in the same nest. The eggs are roundish oval, fine in grain of shell, pure white and in size average about 2·32 by 1·76.

SURNIA, Dumér., 1806.

685. Hawk-Owl.

SURNIA ULULA.

Surnia ulula (Linn.), Syst. Nat. i. p. 133 (1766); Sharpe, Cat. B. Br. Mus. ii. p. 129; Newton, Ooth. Wolley. p. 167; Dresser, v. p. 301, pl. 311; Tacz. F. O. Sib. O. p. 123; *S. nisoria* (Meyer), Ann. Wetter. Gesellsch. i. p. 268 (1809); Naum. i. p. 427, Taf. 42. fig. 2; *S. funerea*, Duméril, Zool. Anal. p. 34 (1806 partim); Gould, B. of E. i. pl. 45; (id.), B. of Gt. Brit. i. pl. xxvi; Hewitson, i. p. 65, pl. xviii. fig. 1.

Sperbereule, German; *Högeugle*, Dan.; *Högugle*, Norw.; *Hökuggla*, Swed.; *Pigan*, *Girjelodde*, Lapp.; *Pissi-haukka*, *Haukkapöllö*, Finn.; *Jaczebata-Sova*, Pol.; *Jastrebinaia-Sova*, Russ.

♂ *ad.* (Sweden). Head, nape, and upper back dull white and blackish mottled; rest of the upper parts dark brown, the lower back barred with dull white; wings brown, the quills spotted and some of the inner secondaries banded with white, the wing-coverts also white spotted; tail pale brown barred with brownish white and tipped with white; facial disk dull white, on the sides bordered by a crescentic line of black; throat whitish mottled with brown, the upper breast almost white; under parts white, narrowly barred with dark brown; legs and toes thickly feathered; beak light yellow; soles yellow; claws blackish brown; iris bright yellow. Culmen 0·9, wing 8.8, tail 7·0, tarsus 1·0 inch. Sexes alike, but the female is rather darker in colour and larger in size.

Hab. Northern Europe and Asia, as far north as Northern Lapland and Kamchatka; wandering south in winter to North Germany; of very rare occurrence in Great Britain; of accidental occurrence in Western Alaska.

Frequents open places in the woods and plains where trees are scattered about, and in the mountains it is found up to the birch region. It hunts by daylight as well as in the evening, and bright sunshine does not appear to incommode it. Its flight is very Hawk-like and swift, and the bird is by no means shy or even wary. Its food consists of lemmings, mice, &c., and birds even as large as a Willow Grouse. It nests in a hollow tree or in the boxes placed by the natives for the Ducks to lay in, and in May deposits on the bare wood 6 to 8 or even 10 pure white roundish eggs closely resembling those of the Short-eared Owl, but usually smaller, which measure about 1·52 by

1·13. At its nesting-place this owl is very bold and daring and will often swoop down on and strike any one who attempts to rob its nest. Its cry much resembles that of the Kestrel.

686. SUBSP. SURNIA FUNEREA.

Surnia funerea (Linn.), Syst. Nat. i. p. 133 (1766 partim) ; Audub. B. N. Am. pl. 378 ; Newton, i. p. 183 (partim) ; Dresser, v. p. 309, pl. 312 Bendire, N. Am. B. i. p. 392, pl. xii. fig. 18 (egg) ; Saunders, p. 305 ; Lilford, i. p. 103, pl. 49 ; *Surnia caparoch* (P.L.S. Müller), Nat. Syst. Suppl. i. p. 69 (1766) ; Ridgw. Manual, p. 265.

♂ *ad.* (New Brunswick). Differs from *S. ulula* in being darker and in having the bars on the under parts broader, darker, and tinged with chestnut. Culmen 1·0, wing 9·0, tail 8·0, tarsus 1·2 inch.

Hab. Northern North America, straying south in winter to the northern border of the United States; of accidental occurrence in Great Britain.

In habits, this Owl does not differ from its European ally, and, like that species, it breeds in hollow trees or on a rotten stump, depositing in April or May 3 to 7 eggs which closely resemble those of *S. ulula*, and in size average about 1·55 by 1·23.

NYCTALA, Brehm, 1828.

687. TENGMALM'S OWL.

NYCTALA TENGMALMI.

Nyctala tengmalmi (Gmel.), Syst. Nat. i. p. 291 (1788) ; (Naum.), i. p. 500, Taf. 48, figs. 2, 3 ; (Gould), B. of E. i. pl. 49 ; (id.) B. of Gt. Brit. i. pl. 36 ; (Hewitson), i. p. 66, pl. xix. fig. 2 ; Newton, i. p. 154 ; Dresser, v. p. 319, pl. 313 ; (Audubon), B. of. Am. pl. 380 ; Sharpe, Cat. B. Br. Mus. ii. p. 284 ; Tacz. F. O. Sib. O. p. 133 ; Saunders, p. 299 ; Lilford, i. p. 89, pl. 43 ; Ridgw. p. 260 ; *N. dasypus* (Bechst.), Naturg. Deutschl. ii. p. 972 (1805) ; *N. richardsoni* (Bp.), Comp. List. p. 7. (1838).

Chouette Tengmalm, French ; *Rauhfusskauz*, German ; *Lilla Skovugle*, Dan. ; *Perlugle*, Norweg. ; *Perluggla*, Swed. ; *Helmipöllö*, *Pikka-pissi*, Finn. ; *Sytsch-rutschnoi*, Russ.

♂ *ad.* (Sweden). Upper parts dark umber brown, on the head spotted and on the rest of the upper parts blotched with white ; tail with five bars of white spots ; facial disk dull white with a dark outer ring ; under parts white mottled with reddish brown, the middle of the abdomen nearly white ; legs densely feathered, whitish mottled or speckled with brown ;

bill dirty yellow; iris bright yellow. Culmen 0·7, wing 6·7, tail 4·40, tarsus 0·75 inch. Female similar but larger. The young bird is darker, and the nestling is sooty umber above, slightly spotted with white and with dull yellowish brown below.

Hab. Scandinavia and N. Russia almost to the northern forest limit, south to the Pyrenees, Alps, Carpathians, and the Caspian; Siberia east to the Baikal, south to the Altai; not found in Kamchatka; of irregular occurrence in Great Britain; N. America south to the United States. Is strictly nocturnal and inhabits the forests throughout its range.

Its cry is a single melancholy call uttered at short intervals and heard only at night. Its food consists of small mammals and birds, and also, it is said, of beetles. In its general habits it is bold and fearless. It breeds early, using a hollow tree for the purposes of nidification; but not making any nest, and in April, May, or June, according to latitude, deposits 5 to 7 pure white, rather fine grained eggs, which in size average about 1·31 by 1·05.

A peculiarity in this owl is that the ear-orifices and also the configuration of the skull are asymmetrical.

ASIO, Briss., 1760.

688. LONG-EARED OWL.

ASIO OTUS.

Asio otus (Linn.), Syst. Nat. i. p. 132 (1766); (Naum.) i. p. 451, Taf. 45, fig. 1; Newton, i. p. 158; Dresser, v. p. 251, pl. 303; Sharpe, Cat. B. Br. Mus. i. p. 227; Blanf. F. Brit. Ind. Birds, iii. p. 271; Saunders, p. 293; Lilford, i. p. 91, pl. 44; *Otus vulgaris*, Fleming, Brit. Anim. p. 56 (1828); Gould, B. of E. pl. 39; id. B. of Gt. Brit. i. pl. 31; Hewitson, i. p. 55, pl. xvii. fig. 3; Tacz. F. O. Sib. O. p. 155.

Hibou vulgaire, French; *Mocho*, Portug.; *Buho*, Span.; *Gufo comune*, Ital.; *Waldohreule*, German; *Ransuil*, Dutch; *Skovhornugle*, Dan.; *Hornugle*, Norw.; *Hornuggla*, *Skogsuf*, Swed.; *Sarvipöllö*, Finn.; *Uschastaja-Sova*, Russ.; *Bāf*, Arab.; *Tora-fu-dzuku*, Jap.

♂ *ad.* (Scotland). Crown furnished with long, erectile tufts, brownish black, on the outer margins ochreous and on the inner greyish white; upper parts buff, marked, streaked, and vermiculated with brown, blackish and greyish white; tail warm ochreous, barred and slightly vermiculated with blackish brown; facial disk warm buff, the feathers on the inner ide of the eye blackish, the ruff dull white tipped with black; under parts warm buff, streaked and on the abdomen minutely barred with brownish black; legs to the toes covered with pale ochreous feathers; bill dark horn; iris ochreous yellow; claws dark horn. Culmen 1·1, wing 11·2, tail 5·9, tarsus 1·6 inch. The female is rather larger, darker, and usually more rufescent.

Hab. Europe generally, about as far north as 59° or 60° N. Lat.; rarer in the Azores, Canaries, and North Africa; Asia east to Japan, north to southern Siberia and south to Northern India.

Throughout the major portion of its range it is a resident, and frequents wooded districts and does not, like some of its allies, visit inhabited places and ruins. It is almost strictly nocturnal, hiding away in some sheltered place during the day, from which it emerges in the evening and hunts after its prey all the night. Its flight is soft and noiseless, and its call-note is a deep hoot. It feeds chiefly on mice but also on large insects and small birds. It nests in wooded localities usually taking possession of a deserted squirrel's drey, or the nest of a Crow or Raptor, which it repairs carefully, and lines with feathers or some other soft material, and from March to May, according to latitude, deposits 3 to 4, sometimes as many as 6 pure white, smooth, but not glossy eggs which measure about 1·63 by 1·31.

In North America this owl is replaced by a very closely allied species, *Otus americanus* Stephens, which differs only in having the upper parts darker and more clouded and the under parts marked with but few longitudinal, and many transverse stripes.

689. SHORT-EARED OWL.

ASIO ACCIPITRINUS.

Asio accipitrinus (Pall.), Reis. Russ. Reichs, i. p. 455 (1771); Newton, i. p. 163; Dresser, v. p. 257, pl. 304; Sharpe, Cat. B. Br. Mus. ii. p. 234; (Tacz.), F. O. Sib. O. p. 157; Blanf. F. Brit. Ind. Birds, iii. p. 271; Saunders, p. 295; Ridgway, p. 258; *A. brachyotus*, (Forst.) Phil. Trans. lxii. p. 384 (1772); (Naum.), i. p. 459, Taf. 45, fig. 2; (Hewitson), i. p. 58, pl. xvii. fig. 2; Gould, B. of E. pl. 40; id. B. of Gt. Brit. pl. 32; Audub. B. of N. Am. pl. 432; Lilford, i. p. 95, pl. 45; *A. sandwichensis* (Bloxh.), in Byron's Voy. of H.M.S. Blonde, App. p. 250 (1826); *A. galapagoensis* (Gould), P.Z.S. 1837 p. 10; *A. cassinii* (Brew.), Proc. Bost. Soc. Nat. Hist. 1856, p. 321.

Duc à courtes oreilles, French; *Mocho*, Portug.; *Bulto*, *Lechuza-campestre*, Span.; *Gufo di Padule*, Ital.; *Sumpfhreule*, German; *Velduil*, Dutch; *Kortöret-Ugle*, Norweg.;

Sumpugle, Hedeugle, Dan.; *Jorduggla,* Swed.; *Jäggi-loadko,* Lapp.; *Lyhytsarvinen-pöllö, Pumppu-haukka,* Finn.; *Koritchnaya-Sova,* Russ.; *el-Hama,* Moor.; *Bāf,* Arab.

♂ *ad.* (Scotland). Ear-tufts short; upper parts buffy ochreous, streaked and blotched with dark brown; quills and tail barred with dark brown, the latter tipped with buffy white; facial disk dull white, with a few scattered blackish markings, the feathers round the eye blackish; ruff yellowish white, spotted and speckled with blackish brown; under parts pale ochreous, streaked, except on the lower abdomen, under tail-coverts, and legs, with blackish brown; legs pale ochreous, closely covered with short feathers; bill and claws blackish; iris bright yellow. Culmen 1·4, wing 11·7, tail 5·8, tarsus 2·0 inch. The female is rather larger and, as a rule, darker than the male, and the young bird is darker and more rufous, and the dark markings are larger.

Hab. The whole of Europe, north into the Arctic regions; Africa south to Natal except in Western Africa; Asia from Kamchatka to South China and Burma, east to Japan; Singapore, the Sandwich, Caroline, and Ladrones islands; America south to the straits of Magellan, north to the 67th parallel and Greenland; the Galapagos islands.

Unlike the Long-eared Owl the present species frequents open moors and damp marshy places, and is not a woodland bird.

It is doubtful if it hunts during the day, except in the Arctic summer, but does not seem to be incommoded by the glare of the sun when flushed. It feeds on mice, small birds, reptiles and coleoptera, &c.; its call is a shrill clear cry *keaw, keaw,* uttered on the wing, and its flight is buoyant. It breeds in the northern portions of its range, always nesting on the ground, its nest consisting merely of a little grass collected in a depression in the soil, and in April or May it deposits 4 to 6, but sometimes 7 or 8 pure white eggs, somewhat elongated, and smooth in texture of shell, which measure about 1·62 by 1·25.

690. African Eared Owl.

ASIO CAPENSIS.

Asio capensis (Smith), S. Afr. Quart. Journ. Ser. 2. vol. ii. p. 316 (1835); Dresser, v. p. 265, pl. 305; Sharpe, Cat. B. Br. Mus. ii p. 239; Irby, Orn. Str. Gibr. 2nd. ed. p. 140.

El-hama, Moorish.

♂ *ad.* (Morocco). Upper parts dark earth-brown, tinged with chocolate and vermiculated with lighter brown; quills rufescent ochreous, barred with blackish brown, the inner ones tipped with white ; middle tail-feathers dark brown, with five warm buff bands, the rest warm buff, barred with blackish brown and tipped with white ; ear-tufts small ; face dull white, pencilled with dark brown, the feathers round the eye black ; facial ruff black marked with reddish ochreous ; under parts pale brown marked, spotted, and vermiculated with light fulvous and dull white ; lower abdomen, under tail-coverts, and legs ochreous buff ; toes nearly or quite bare ; bill and feet blackish ; iris bluish black. Culmen 1·5, wing 11·6, tail 6·0, tarsus 2·25 inch. Sexes alike.

Hab. North-west Africa, south to the Cape Colony, occurring locally in Southern Spain.

In habits it appears to resemble the Short-eared Owl, but it is only found in marshy localities and is gregarious. During the day time it hides in the long grass and reeds, hunting after its prey during the night, but if disturbed during the day it flies well and is not incommoded by the light. It feeds on water-insects, mice, lizards, &c. Its nest, like that of the Short-eared Owl, is placed on the ground in a damp marshy locality, and in April or May it lays 4, seldom 5, roundish white eggs.

SCOPS, Savigny, 1810.

691. Scops-Owl.

SCOPS GIU.

Scops giu (Scopoli), Ann. i. Hist. Nat. p. 19 (1769) ; Newton, i. p. 173 ; Dresser, v. p. 329, pl. 314 ; Sharpe, Cat. B. Br. Mus. ii. p. 47 ; Blanf. F. Brit. Ind. Birds, iii. p. 291 ; Saunders, p. 307 ; Lilford, i. p. 100, pl. 47 ; *S. scops*, Linn. Syst. Nat. i. p. 132 (1766) ; Naum. i. p. 466, Taf. 43, fig. 3 ; *S. aldrovandi.* Flem. Brit. Anim. p. 57 (1828) ; Gould, B. of E. i. pl. 41 ; Hewitson, i. p. 54, pl. xix. fig. 1 ; *S. zorca* (Gmel.), Syst. Nat. i. p. 19 (1788) ; Gould, B. of Gt. Brit. i. pl. 33.

Le petit Duc, French ; *Mocho pequeño*, Portug. ; *Corneja*, Span.; *Assiolo*, *Chiu*, Ital. ; *Zwerg ohreule*, Germ. ; *Kanuk*, Russ. ; *Marouf*, Arab and Moorish ; *Buf*, Persian.

♂ *ad.* (Spain). Upper parts greyish, varied with orange and brownish buff, sparingly striped with black, and finely vermiculated with dark brown ; crown washed with rufous buff and strongly striped with black ; ear-tufts small, greyish white on the inner web ; scapulars marked with white ; wings barred with white and speckled brown ; tail light brown, vermiculated and barred with dark brown and fulvous ; facial disk pale grey, speckled with greyish white and brown ; below the ear-coverts to the sides of the neck a band of blackish feathers; under parts greyish white, vermiculated with brown, sparingly blotched and striped with blackish brown; beak black, claws whitish at the base, blackish towards the tip; iris yellow. Culmen 0·7, wing 5·7, tail 2·75, tarsus 1·0 inch. The female differs only in being rather larger, and the young in being more rufous in colour.

Hab. Central and Southern Europe, rarer in the northern parts of the continent, of occasional occurrence in Great Britain; North Africa, ranging south to Abyssinia, Sennaar, and Senegambia in the winter; in Asia as far east as Persia and Turkestan.

Frequents groves and woods where there is abundant undergrowth, and is especially nocturnal in its habits. It feeds chiefly, if not entirely, on insects of various kinds. Its note which is uttered constantly at short intervals during the night is a clear monotonous *he-ou.*

It breeds in holes in trees, or occasionally in deserted nests, seldom in holes in rocks or walls, its nest being a scanty bed of moss or grass, and in May it deposits 4 to 5, seldom 6, pure white roundish eggs, smooth in surface of shell, but not glossy, which measure about 1·18 by 1·01.

In Europe this owl is not subject to much or scarcely any variation in plumage except that a rufous form is occasionally met with, but in Asia there are several races, so closely allied that they scarcely constitute subspecies, viz., *Scops sunia*, Hodgson, from China and Nepal, which is a rufous form much redder than any rufous variety of *S. giu* from Europe; *Scops pennatus*, Blyth, from the Himalayas which is darker than the European bird and has the ear-tufts rufous in part; *S. gymnopodus*, Gray, appears to be merely a specimen which had accidentally lost the feathers of the lower tarsus; *Scops malayanus*, Hay, from South China and the Malayan peninsula, is a dark brownish form differing from *S. pennatus* as that form does from the European *S. giu*; and *Scops rufipennis*, Sharpe, from the Carnatic, which differs very little from *S. malayanus*, and is a small rather uniformly coloured race.

692. SUBSP. SCOPS CYPRIUS.

Scops cypria, Madarasz. Termesz. Füset. 1901, p. 272.

♂ *ad.* (Cyprus). Differs from *S. giu* in being much darker in plumage; upper parts darker and greyer, the markings on the under parts thicke and blacker. Culmen 0·75, wing 6·3, tail 2·78, tarsus 1·1 inch.

Hab. Cyprus.

An insular form, resident on the island of Cyprus. In habits and nidification it does not appear to differ from *S. giu*.

693. SUBSP. SCOPS JAPONICUS.

Scops japonicus, Temm. and Schlegel, Faun. Jap. Aves, p. 27, pl. 9 (1850); Sharpe, Cat. B. Br. Mus. ii. p. 56; Tacz. F. O. Sib. O. p. 150; *S. bakkamæna*, Swinh. Ibis, 1860, p. 47 (nec. Penn); *S. stictonotus*, Sharpe, Cat. B. Br. Mus. ii. p. 54, pl. iii. fig. 2 (1875).

♂ *ad.* (Japan). Differs from *S. giu* in being darker and more uniform in colour, both on the upper and under parts, in having the dark markings less clearly defined, and the lower part of the tarsus unfeathered and bare. Wing 5·7, tail 2·8, tarsus 1·2 inch.

Hab. South-eastern Siberia (the Ussuri country and Amoor Bay), China, Manchuria, and Japan.

In habits this bird does not appear to differ from *Scops giu*, of which it is merely an eastern form. After a careful examination of specimens, I am unable to separate *Scops japonicus* from *S. stictonotus*, except that the latter approaches somewhat nearer to *S. giu* in having the dark markings somewhat better defined, especially on the under parts.

694. SUBSP. SCOPS BRUCII.

Scops brucii (Hume), Str. Feath. i. p. 8 (1873); Sharpe, Cat. B. Br. Mus. ii. p. 62; Dresser, ix. p. 265, pl. 691; Blanf. F. Brit. Ind Birds, iii. p. 294; *S. obsoletus* (Severtz), J. f. O. 1875, p. 171; *S. strauchi*, Bogd. Khiva i Kizyl-Koum. p. 70 (1882).

Kutruz, Mahr.

♂ *ad.* (Transcaspia). Much paler than *S. giu*, the general colour being pale ochraceous grey; upper parts finely striped with blackish, and indistinctly vermiculated, the under parts more boldly streaked with black; quills dark brown, banded with ochraceous on the outer, and pale greyish brown on the inner web, the terminal portion finely vermiculated; tail ochraceous grey, finely vermiculated, and with five indistinct fulvous bands; lores and in front of and above the eye whitish; facial ruff pale ochraceous, indistinctly vermiculated with grey, and tipped with black; chin whitish; tarsus feathered to the base of the toes; bill dusky, toes dull slate-coloured, claws black; iris yellow. Culmen 0·95, wing 6·4, tail 3·2, tarsus 1·4 inch. Sexes alike.

Hab. Transcaspia, Bokhara, Afghanistan, Wakhan; Sind, Gilgit, and the Bombay Presidency and Western Khandesh; has also been said to have occurred in Syria.

In habits it resembles *S. giu* of which it seems to be a desert form, and like that species breeds in hollow trees, frequently making use of the deserted nest-holes of the larger Woodpeckers. Its eggs are pure white and resemble those of *Scops giu*, but are larger, measuring about 1·24 by 1·09.

695. Rough-footed Scops-Owl.

SCOPS SEMITORQUES.

Scops semitorques (Temm. and Schlegel), Faun. Jap. Aves, p. 25, pl. 8 (1850) ; Sharpe, Cat. B. Br. Mus. ii. p. 83 ; Blanf. F. Brit. Ind. Birds, iii. p. 300 ; Tacz. F. O. Sib. O. p. 153 ; *S. plumipes* (Hume), Rough Notes, p. 397 (1870) ; Sharpe, tom. cit. p. 85.

Ō-ko-no-ha-dzuku, Jap.

♂ *ad.* (Japan). Differs from *S. giu* in being somewhat larger, darker and more boldly marked, in having a well defined buff or buffy white collar round the hind-neck, and the legs are more densely covered with soft feathers, which extend over the major portion of the toes. Gape 0·9, wing 8·8, tail 5·6, tarsus 1·5 inch.

Hab. The Himalayas from Sikhim to Murree, Moupin in China; the Ussuri country and island of Ascold; Corea; Japan.

In habits it does not appear to differ from *S. giu.* It is said to frequent the wooded portions of the mountains. It nests in the hole of a tree and in May deposits pure white, slightly glossy eggs, which measure from 1·26 by 1·1 to 1·28 by 1·5.

Specimens from the Himalayas are rather smaller than those from Japan.

BUBO, Duméril, 1806.

696. Eagle-Owl.

BUBO IGNAVUS.

Bubo ignavus, Forst. Syn. Cat. B. B. p. 3 (1817); Newton, i. p. 168 ; Dresser, v. p. 339, pl. 315 ; Sharpe, Cat. B. Br. Mus. ii. p. 14 ; Tacz. F. O. Sib O. p. 143 ; Blanford, F. Brit. Ind. Birds, iii. p. 284 ; Saunders, p. 309 ; Lilford, i. p. 97, pl. 46 ; *Strix bubo*, Linn. Syst. Nat. i. p. 131 (1766) ; Naum. i. p. 440, Taf. 44 ; *B. maximus*, Flem. Brit. An. p. 57 (1828) ; Gould, B. of E. i. pl. 37 ; id. B. of Gt. B. pl. 30.

Grand-duc, French ; *Bufo*, Portug. ; *Buho grande*, Span. ; *Gufo reale*, Ital. ; *Uhu*, German ; *Bjergugle*, Dan. and Norweg. ;

Berguf, Swed.; *Pälljiskuolffi*, *Lidno*, Lapp.; *Huuhkaja*, Finn.; *Filin*, Russ.

♂ *ad.* (Sweden). Upper parts generally reddish ochreous or reddish rown, marked and marbled with black; rump and upper tail-coverts rusty rufous barred with black; quills blackish with yellowish brown, the bars vermiculated with black; tail rufescent ochreous, barred and marbled with black; two conspicuous tufts on the head; facial disk rufous grey speckled and faintly barred with black; throat white; under parts brownish ochreous marked and barred with black, the feathered legs more rufous and less barred; bill and claws blackish horn; iris rich orange. Culmen 2·5, wing 18·0, tail 10·5, tarsus 3·1 inch. The female differs only in being somewhat larger.

Hab. Europe generally, from the Arctic to the Mediterranean, but somewhat rare in North Africa; a rare straggler to Great Britain; does not seem to occur far east of the Ural in the north, but is met with in the Himalayas.

Frequents forests and rocky localities and is nocturnal in its habits, though not dazed by the sunlight when disturbed by day. Its cry is a loud, deep *hu, hu* modulated in various ways. It is one of the boldest of our European birds of prey and very destructive to game, but it does not disdain rats, mice, hares, rabbits, crows, etc., etc. It nests in the rocks or on the ground, or in the forests will utilize the nest of one of the larger birds of prey, and from March to May, according to latitude, it deposits 2 or 3, seldom 4, roundish pure white eggs, somewhat rough in grain of shell, which average about 2·29 by 1·91.

697. SUBSP. BUBO TURCOMANUS.

Bubo turcomanus (Eversm.), Add. Zoogr. Ross. As. i. p. 3 (1835); Sharpe, Cat. B. Br. Mus. ii. p. 17 (partim).

♂ *ad.* (Tibet). Differs from *B. ignavus* in being as a rule slightly smaller, in having the under parts more barred and less striped with black; upper parts paler and less marked with blackish.

Hab. Central Asia, west to the Ural, east to Turkestan and Tibet.

698. SUBSP. BUBO SIBIRICUS.

"*Bubo sibiricus*, Licht." (Susemihl) Vög. Eur. Taf. 44 (1841); ? Licht. Nomencl. Av. p. 7 (1854); Tacz. F. O. Sib. O. p. 145; *B. turcomanus*, Sharpe, Cat. B. Br. Mus. ii. p. 17 (partim, nec. Eversm.).

♂ *ad.* (Siberia). Differs from *B. ignavus* in having the ground colour of the plumage white, the upper parts, wings, and tail here and there faintly washed with pale rufescent ochreous, the ground colour of the under parts pure white, the blackish markings rather fewer, and the facial disk white, with a faint ochreous grey tinge; ear-tufts black on the outer, and white on the inner web; feathers on the legs and feet white. Culmen 2·35, wing 18·5, tail 11·0, tarsus 3·6 inch.

Hab. This bird, which is a north-eastern form of *B. ignavus*, nhabits Siberia, east to the Pacific coast, and in habits and nidification does not differ from that species. The eggs, which are usually deposited late in March, are white, and measure about 2·35 by 1·92.

699. JAPANESE EAGLE-OWL.

BUBO BLAKISTONI.

Bubo blakistoni, Seebohm, P.Z.S. 1883, p. 466; id. Ibis, 1884, p. 42, pl. vi.; (Tacz.) F. O. Sib. O. p. 147.

Shima-fukurō, Jap.

ad. (Japan). General colour of the upper parts brown, marbled with buff, which takes the form of transverse bars on the wings and tail; no black blotches as in *B. ignavus*, but all the small feathers with dark brown shaft-streaks, under parts similar, but the shaft-streaks narrower. Chin and upper throat white, with very narrow shaft-streaks. Ear-tufts well developed. Tarsus feathered, but toes entirely bare. Culmen 2·8, wing 21·0, tail 11·5, tarsus 3·8 inch.

Hab. Japan, the Sidemi river in S.E. Siberia, and Lake Khanka.

Is readily distinguishable from *B. ignavus* in having the tarsus only feathered and the toes bare, and appears to be the only species of this genus found in Japan. Respecting its habits and nidification nothing appears to be on record.

700. SUBSP. BUBO DORRIESI.

Bubo dorriesi, Seebohm, Bull. B. O. Club. v. p. iv. (1895).

♀ *ad.* (Amur-Bay). Differs from *B. blakistoni*, merely in having the upper parts paler and whiter, and in having a white nuchal patch; tail creamy white blotched with blackish towards the end, the middle feathers indistinctly vermiculated with pale brown. Wing 17·5, tail 10·5, tarsus 2·9 inch.

Hab. Eastern Siberia.

Nothing is known of the habits and nidification of this bird, though five specimens have been obtained. The specimen described is a very fine female in the Rothschild Museum at Tring.

701. Egyptian Eagle-Owl.

BUBO ASCALAPHUS.

Bubo ascalaphus, Savigny, Ois. de l'Égypte, &c. p. 50, No. 25, pl. v. (1810); Gould, B. of E. i. pl. 37; Sharpe, Cat. B. Br. Mus. ii. p. 24; Dresser, ix. p. 267, pl. 692; "*A. savignii*, Geoffr. St. Hil.", Gray Gen. of B. p. 7 (1841).

Bāf-relid, Arabic.

♂ *ad*. (Egypt). Upper parts warm rufous buff, matted with blackish brown and white, the tail-coverts barred with blackish brown; tail rufous buff barred with dark brown, the middle feathers paler; chin and throat white; rest of under parts buff, the breast and upper flanks blotched, the rest of the under parts barred with brown; legs and feet feathered, buff, barred with pale brown; iris deep yellow, beak and claws blackish horn. Culmen 2·2, wing 15·4, tail 9·3, tarsus 3 0 inch. The female differs only in being larger.

Hab. Northern Africa from Morocco to Egypt, south to Abyssinia, and Central Nubia.

Inhabits rocky gorges and desert places, old ruins, etc., is nocturnal, and in its general habits resembles *B. ignavus*. In Egypt it breeds in March or early in April, depositing 2 or 3 roundish, pure white eggs which are finer in grain of shell than those of the Eagle Owl, in size about the same as those of the Lapp Owl, measuring about 2·13 by 1·67.

This Owl is subject to considerable variation in tone of colour, and Baron von Erlanger has described and figured (J. f. O. 1898, pp. 492, 495, taf. xii. xiii.) two of the pale varieties from Tunis, separating them subspecifically under the names *Bubo ascalaphus barbarus* and *B. a. desertorum*.

702. Rock Eagle-Owl.

BUBO BENGALENSIS.

Bubo bengalensis (Frankl.), P.Z.S. 1831, p. 115; (Gould), Centur. B. Himal. Mts. pl. 3; Sharpe, Cat. B. Br. Mus. ii. p. 25; Blanf. F. Brit. Ind. Birds, iii. p. 285; Berezovski and Bianchi, Ptitz. Gan-su, p. 44.

Ghúgá, Hind.; *Ghubâd*, Mahr.

♂ *ad*. (India). Resembles *B. ascalaphus*, but has, as a rule, the upper parts less rufous, and more closely marked and mottled; abdomen more closely and finely barred; bill blackish horn; claws dusky; iris orange yellow, toes bare to about 0·3 above the base of the claws. Culmen 2·0, wing 14·3, tail 9·0, tarsus 3·0 inch. Female similar, but rather larger.

Hab. The whole of India, but not in Ceylon; Western Punjab and Sind; said to occur in Afghanistan; Kashmir; South-eastern Kan-su.

Frequents rocky hills, ravines, brushwood beside rivers and streams, and groves on the plains. It is not exclusively nocturnal; it feeds on small rodents and birds, lizards, snakes, crabs, and large insects. Its call is a loud dissyllabic hoot. It breeds from December to April, placing its 2 to 4 eggs in a cave, on a rocky ledge, or under a bush or tuft of grass on the ground. These are pure white, roundish, and measure about 2·1 by 1·73.

GLAUCIDIUM, Boie, 1826.

703. Pigmy Owl.

GLAUCIDIUM PASSERINUM.

Glaucidium passerinum (Linn.), Syst. Nat. i. p. 133 (1766); (Gould), B. of E. i. pl. 50; Dresser, v. p. 349, pl. 316; Sharpe, Cat. B. Br. Mus. ii. p. 191; *Strix arcadica* Naum. i. p. 434, Taf. 43, fig. 1, 2.

Surnie chevêchette, French; *Sperlingseule*, German; *Civetta nana*, Ital.; *Dwerguil*, Dutch; *Spurvugle*, *Dvaergugle*, Dan. and Norweg.; *Sparfuggla*, Swed.; *Varpuispöllö*, Finn.; *Sytschmaloutka*, Russ.

♂ *ad.* (Sweden). Upper parts, wings, and tail umber brown, tinged with grey; head and back marked with small fulvous white spots and bars, which are larger on the nape; wings marked with dull white; tail narrowly barred with dull white; no true facial disk, but the facial feathers white varied with brown bars; chin, moustachal stripe, and lower throat white; upper throat brown varied with white; rest of under parts white, the flanks and under tail-coverts streaked with brown; feet brownish yellow, talons blackish brown; bill and iris yellow. Culmen 0·55, wing 3·9, tail 2·2, tarsus 0·5 inch. Female similar, but rather larger. The young are browner, with scarcely any spots of white, and the stripes on the under parts are broader.

Hab. Northern and Central Europe, from Lapland south to Switzerland, Styria, and the Caucasus; not found in Great Britain; Northern Asia east to Dauria.

Frequents forests, especially on the borders where hollow trees are to be met with, and mountainous districts, and is chiefly a resident, though some appear to migrate south in the autumn. It is nocturnal, hunting, however, chiefly in the early morning and late in the evening. It feeds on lemmings, mice, small birds, and insects, and is bold and voracious. Its note is a monotonous *hȳ, hŏ, hŏ, hŏ,* or *hȳ, hȳ, hȳ, hō.* It breeds in the forests, taking possession of a hole in a tree in which it deposits 3 to 4 eggs. Authenticated eggs have been taken in Scandinavia in May 1850 and in Styria in April 1862. They are pure white, elongated-roundish in shape, rather polished in surface of shell with deep distinct pores widely apart.

Eggs taken in Sweden, the parent-bird having been captured on the nest, measure 0·97 by 0·78 to 1·01 by 0·78, whereas those taken in Styria measure 1·18 by 0·91.

Dr. von Madarasz has separated under the name *G. setipes* the southern bird from the Scandinavian, as having the toes almost bare, but specimens I have examined from Bosnia have the feet as well covered as the ordinary Swedish form.

704. Collared Owl.

GLAUCIDIUM BRODIEI.

Glaucidium brodiei (Burton), P.Z.S. 1835, p. 152; Sharpe, Cat. B. Br. Mus. ii. p. 212; Blanf. F. Brit. Ind. Birds, iii. p. 307; Berezovski and Bianchi, Ptitz. Gan-su, p. 43; *Athene minutilla* Gould, B. of A. i. pl. 15 (1870)); *G. immaculatus*, Hume, Rough Notes, p. 420 (1870).

♂ *ad.* Crown, cheeks, and ear-coverts brown, finely spotted with dull white or buffy white; below the nape a broad band of rufous buff, broadly marked with black; rest of the upper parts, wings, and tail brown, barred with buffy white; scapulars marked with large white spots; chin and breast pure white; sides of breast and a band across the upper breast dark brown; rest of the under parts white, broadly striped or barred with dark brown; toes bare; bill, cere, and feet yellowish green; iris bright yellow; claws horny. Culmen 0·7, wing 3·8, tail 2·4, tarsus 0·8 inch.

Hab. The Himalayas west to Murree; the hills south of the Assam valley; the Karennee and Tenasserim ranges; Perak; Southern China; south-west Kan-su.

Inhabits the hill forests, and is somewhat diurnal in its habits. It feeds on birds, small mammals, insects, lizards, and frogs. Its note is a clear whistle, *whoo, whoo, whoo, whoo.* It breeds usually in May or June, and lays in holes in trees 4 pure white, round eggs. Its nest has been found containing young birds, but, so far as I am aware, only one broken egg has as yet been obtained.

NINOX, Hodgson, 1837.

705. HAIRY OWL.

NINOX SCUTULATA

Ninox scutulata (Raffl.), Tr. Linn. Soc. xiii. p. 280 (1822); Sharpe, Cat. B. Br. Mus. ii. p. 156; Blanf. F. Brit. Ind. Birds, iii. p. 309; *N. hirsuta* (Temm.), Pl. Col. i. pl. 289 (1824); *N. japonica* (Bp.), Consp. G. Av. i. p. 41 (1850); (Temm. and Schlegel), F. Jap. Aves, pl. 9B; David and Oust. Ois. Chine, p. 36; *N. lugubris* (Tickell), J.A.S.B. ii. p. 572 (1833); Sharpe, tom. cit. p. 154; *N. burmanica* Hume, Str. Feath. iv. p. 285 (1876); *N. innominata* Hume, op. cit. iv. p. 286 (1876); *N. affinis* Beavan, Ibis, 1867, p. 316; Sharpe, tom. cit. p. 155.

Choghad besra, Hind.; *Kal-pechak,* Beng.; *Aoba-dzuku,* Jap.

♂ *ad.* (Japan). Ruff and facial disk obsolete; upper parts rich chocolate brown, less rufous in tinge on the head and neck; scapulars and innermost secondaries slightly marked with buffy white; tail boldly barred with blackish on a greyish brown ground; chin white, the hair-like feathers round the bill white, with black shafts; under parts chocolate brown, broadly striped with white; under tail-coverts white, sparingly streaked with pale chocolate brown; bill bluish black, cere dull green; feet dull yellow, claws horn brown; iris bright yellow; tarsus feathered, the toes sparsely covered with bristles. Culmen 0·97, wing 7·4, tail 4·2, tarsus 0·98 inch. Female similar but larger.

Hab. Sidemi in S.E. Siberia, the island of Askold, Corea, Japan; India, China, Burma, Ceylon, and the Indo-Malayan region generally.

This Owl is chiefly nocturnal, keeping in the dense woods during the day time. It feeds on insects, mice, lizards, etc. Its call-note is a not unmelodious hoot, *whōō-wuk, whōō-wuk,* and it is said when wounded to cry like a hare. It is also said to evince a marked preference for the vicinity of water. It breeds early in the year, but little is known of its breeding habits. An egg found in Ceylon was in the hollow of a dead cocoa-nut tree, on an irregular bed of dried leaves, and was pure white, with a fine compact but scarcely glossy shell, in shape nearly spherical, and measured 1·45 by 1·27.

ATHENE, Boie, 1822.

706. LITTLE OWL.

ATHENE NOCTUA.

Athene noctua (Scop.), Ann. i. Hist. Nat. p. 22 (1772); (Naum.), i. p. 493, Taf. 48, fig. 1.; (Newton), i. p. 178; Gould, B. of Gt. Brit. i. pl. 37; Dresser, v. p. 357, pl. 317; (Sharpe), Cat. B. Br. Mus. ii. p. 133; Saunders, p. 301; Lilford, i. p. 102, pl. 48; *A. nudipes* (Nils.) Orn. Suec. i. p. 68 (1817); (Gould), B. of E. i. pl. 48; (Hewitson), i. p. 67, pl. xix. fig. 3.

Chouette chevêche, French; *Môcho,* Portug.; *Mochuélo,* Span.; *Civetta,* Ital.; *Steinkauz,* German; *Minervas Ugle,* Dan.; *Steenuil,* Dutch; *Sytsch-domovoi,* Russ.; *Mouka,* Moorish.

♂ *ad.* (Germany). Upper parts brown, the head striped, the other parts mottled and spotted with white, the head tinged with fulvous; quills barred and spotted with white; tail barred with fulvous white; no facial disk; forehead, eyebrow, malar region and throat white; sides of neck and lower throat brown, mottled with white; under parts white, below the breast streaked and mottled with brown; lower abdomen, thighs, and under tail-coverts fulvous white; bill greenish yellow; feet greyish yellow, sparsely covered with hairy bristles; iris yellow. Culmen 0·65, wing 6·0, tail 2·9, tarsus 1·1 inch. Female similar but larger. Young tinged with rufous.

Hab. Continental Europe, south to the Mediterranean; a rare straggler to England and Sweden; Morocco.

Frequents gardens, orchards, and old buildings, and also is found in villages, farmyards, etc., where not molested. It is partly diurnal in its habits, though chiefly nocturnal. Its note is a monotonous *cu, cu-cu* or *kuwitti, kuitti,* in the spring considerably modulated, and it is said to utter a mewing call. It feeds on small birds, mice, large insects, etc., and is generally looked on as a useful bird. It makes no regular nest, but places its eggs in a hole in an old wall or a rock, or in buildings, in a hollow tree, or in a hole in the ground. The eggs, 3 to 5 in number, are usually deposited in May, and are roundish in shape, and in size average 1·35 by 1·12.

707. SUBSP. ATHENE GLAUX.

Athene glaux (Savigny), Syst. Ois. de l'Égypte, &c. p. 45 (1810); Dresser, v. p. 367, pl. 318; (Sharpe), Cat. B. Br. Mus. ii. p. 135; *A. persica,* (Vieill.), Nouv. Dict. vii. p. 26 (1817); *A. meridionalis;* (Risso), Hist. Nat. Eur. Mérid. iii. p. 32 (1826).

Bouma, Arab.

♂ *ad.* (N. Africa). Differs from *A. noctua* only in having the brown coloration of the upper parts much paler, sandy rufous in tone, and the brown markings on the under parts much paler and more rufescent; soft parts as in *A. noctua*. Culmen 0·75, wing 6·1, tail 3·1, tarsus 1·25 inch. The male is similar but smaller.

Hab. Southern Europe and N. Africa to about 14° N. Lat. in E. Africa; Asia Minor and Palestine, east to Persia and probably Afghanistan.

In general habits and nidification this Owl does not differ from *A. noctua*, and its eggs are undistinguishable from those of that species.

708. Eastern Little Owl.

ATHENE BACTRIANA.

Athene bactriana Hutton, J.A.S.Beng. xvi. p. 776 (1847); (Sharpe), Yark. Miss. Aves, p. 14, pl. iii.; Dresser, ix. p. 271; Blanf. F. Brit. Ind. Birds, iii. p. 303; *A. plumipes* Swinhoe, P.Z.S. 1870, p. 448; (Sharpe), Cat. B. Br. Mus. ii. p. 137.

Ay-chay, *Hay-kis*, Kirghis; *Sirin mochnonogey*, Russ.; *Kutruz*, Mahr.

♂ *ad.* (Transcaspia). Differs from *A. glaux* only in having the legs and the toes to the base of the claws densely feathered. Culmen 1·0, wing 6·45, tail 3·3, tarsus 1·35 inch.

Hab. Transcaspia, Afghanistan, Turkestan, Mongolia, Dauria, and China.

In habits this species is said to resemble *A. noctua*. In Mongolia it frequents the clayey banks of brooks and rivers, and the open steppes. Mr. Zarudny, who has found its nest, describes the eggs as being spherical in shape, white in colour, and glossy in texture, measuring 1·3 to 1·38 by 1·01 to 1·14.

ALUCO, Fleming, 1822.

709. Barn Owl.

ALUCO FLAMMEUS.

Aluco flammeus (Linn.), Syst. Nat. i. p. 133 (1766); (Naum.) i. p. 483, Taf. 47, fig. 2; (Hewitson), i. p. 61, pl. xviii. fig. 1; (Gould), B. of E. i. pl. 36; (id.), B. of Gt. Brit. i. pl. 28; Newton, i. p. 194; (Dresser), v. p. 237, pl. 302; (Sharpe), Cat. B. Br. Mus. ii. p. 291;

(Audubon), B. of Am. pl. 171 ; (Blanf.), F. Brit. Ind. Birds, iii. p. 264 ; (Saunders), p. 291 ; (Lilford), i. p. 109, pl. 51 ; *S. pratincola*, Bp. Comp. List. p. 7 (1838) ; Ridgway, p. 255 ; *S. javanica*, Gmel. Syst. Nat. i. p. 295 (1788) ; *S. perlata*, Licht. Verz. Doub. p. 59 (1823) ; *S. furcata*, Temm. Pl. Col. i. pl. 432 (1827) ; *S. delicatula* Gould, P.Z.S. 1836, p. 140 ; *S. pinctatissima* Gray in Darwin's Zool. Beagle, Birds, p. 34, pl. 4 (1841) ; *S. poensis*, Fraser, P.Z.S. 1842, p. 189 ; *S. africana*, Bp. Rev. and Mag. de Zool. 1854, p. 540 ; *S. indica*, Blyth, Ibis, 1866, p. 250 ; *S. affinis* Layard, B. of S. Afr. p. 42 (1867) ; *S. insularis*, Pelz. J. f. O. 1872, p. 23.

Effraye commune, French ; *Coruja das torres*, Portug. ; *Lechuza*, Span. ; *Barbagianni*, Ital. ; *Schleiereule*, German ; *Kerkuil*, Dutch ; *Perlugle*, Dan. ; *Tornuggla*, Swed. ; *Sepoocha*, Russ. ; *Youka*, Moorish ; *Báfa*, Arab. ; *Kuraya*, Hindu. ; *Ghubád*, Mahr.

♂ *ad.* Upper parts orange buff, vermiculated with grey and spotted with dark grey and white ; quills and tail barred with blackish grey ; facial disk silvery white, the space immediately round the eye dull rufescent ; ruff white tipped with orange and blackish grey ; under parts white, more or less spotted with blackish grey ; bill ivory white ; iris blue-black. Culmen 1·3, wing 11·2, tail 4·8, tarsus 2·4 inch. Female similar but larger. Throughout its range there is besides the above white form a dark form in which the upper parts are much darker and greyer, and the under parts vary from pale orange-buff to rich dark tawny.

Hab. Europe generally, from Denmark to the Mediterranean, and from the Azores, Canaries, and Madeira to the extreme east, but is very rare in Sweden and not found in Finland. Subject to climatic variation, it is found throughout Africa and Madagascar, the Indo-Malayan, Australian, Polynesian, Nearctic (except in the more northern portions) and Neotropical areas; in Asia it does not appear to occur in Mongolia, E. Siberia, or Japan.

In its habits the Barn Owl is strictly nocturnal, and unless disturbed it does not leave its retreat during daylight. The note is a loud, harsh, weird shriek, and both the old and the young birds utter a deep snoring sound. Its food consists of rats, mice, moles, large insects, small birds, occasionally also of fish, but chiefly of mice. This Owl nests in hollow trees, towers, churches, barns, and dovecotes, not making any nest, and in April or May deposits 4 to 6, occasionally 7 white eggs, more elongated in shape than those of the other Owls, rather dull and glossless, averaging about 1·55 by 1·21.

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